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# BULBS FOR POTS

AND FALL PLANTING IN THE GARDEN



A CATALOG OF THE BULBS AND PLANTS OF THE AMARYLLIS, IRIS,  
ORCHID, GESNERIA AND OTHER PLANT FAMILIES  
AND MANUAL OF THEIR CULTURE

Many Reduced Prices. New Items Listed. Complete Culture Directions.  
A Personal Letter,—to You.

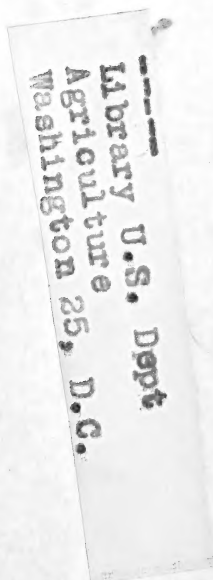
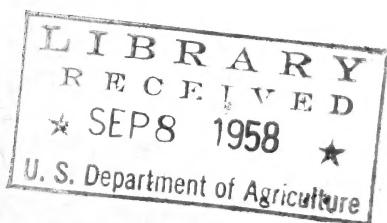
**FALL 1958**



**CECIL HOUDYSHELE**

1412 Third St.

La Verne, Calif.



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Bulk Rate

## A Personal Letter — To You.

### THE SILVER CITY

Dear Floral Friends,

If you have a copy of June, 1957, Bailey, please turn to page 73 and read the first two lines. There is a slight error there. In 1910-1911, I was Vice-Principal of the Carson City, Nevada, High School and in 1911-1912, I was Superintendent of the Virginia City schools.



Cecil Houdyshel

We still have a few of the June, 1957, Bailey. They cost us 50c each. If interested, send us 50c and we will send a copy, postpaid. If you prefer to send extra for postage it will not be refused.

At Virginia City, it was impossible to rent a house but I finally found a good house on two lots that I bought for about \$400.00. There were a few fruit trees on the back of the lot and a small playhouse for the children. It was a regular small house, good siding, shingled roof and plastered interior.

The large house sat on the ground one side in the direction of C street (toward the mountains). On the opposite side the house was supported by 10 by 10 ft. pine pillars. The house was completely furnished with a high topped walnut bedstead with carved top, blue plates, etc. There were, a kerosene lamp which modern chimneys do not fit; a pitcher that swings between two uprights that curved in one solid piece and met over the top, making one solid piece. The pitcher is engraved and is silver plated. It is porcelain lined. These are valuable antiques as well as souvenirs. There was also an old time revolver, single action.

Virginia City, on the side of Mt. Davidson has a very high elevation. Until one becomes accustomed to the high elevation one must walk slowly, especially if going uphill.

It is said that a bibulous character, known as "Old Virginny" gave the Silver City its name. He accidentally dropped his beverage on a rock and resolved that the loss should not be total. So he christened the rising mining town Virginia in honor of himself. The name stuck. Later, stage and express companies tacked on "City."

At Virginia City, I recall hearing Richard Jose sing in the old Opera House or concert hall such old time songs as "Home Sweet Home," "When You and I Were Young Maggie," etc. They are now popular recordings.

I recall also that Mark Twain published the "Enterprise," long before my time, in the loft of a livery stable. A ladder was nailed to the side and at the side of the ladder he gave directions for "To come to my office," etc.

In late June, Mrs. Houdyshel and I decided to visit Virginia City and Carson City. After 46 years several items were in the wrong place — even Mt. Davidson. I purchased a number of souvenir cards and among them was the old school building, now called the "Old Fourth Ward School," a monument to past learning. Still standing but no longer in use. It was dedicated Tuesday, November 28, 1876.

This letter is written to flower lovers. It may interest you to know that we have 6 or more very large Lagerstroemia in different species. All are identified and labelled. They are now in full bloom and visitors who love flowers are always welcome — if they do not step on plants in the flower beds. I believe we have the best collection in this area.

We also have a large collection of Camellias, landscaped in our avocado grove. I can hardly wait until they flower. Sasanquas flower August to later. We have several varieties of Sasanquas. None are yet in flower so it's going to be much "later."

Be sure to try a few of "The Egret Flower," a new import from Japan. An orchid anyone can grow either in warm or cold climates. 12 for \$2.50.

Don't forget that Mrs. Houdyshel rents slides of flower subjects to garden clubs at a distance and is available for lectures on African Violets or rare bulbs in southern California. Her fees are reasonable.

Sincerely, Cecil Houdyshel

## TERMS AND INSTRUCTIONS FOR ORDERING

**Prices** in this catalog cancel all former prices. They are for one bulb unless otherwise stated. 12 bulbs are sold for price of 10 or 6 for price of 5. 100 bulbs for price of 70 unless noted. Books, garden supplies and plants take no quantity discounts. California customers must add 4% Sales Tax.

**Remit** in advance, in full, by check or M.O. No C.O.D. No charge accounts carried. Nothing reserved unless paid for in full. These terms reduce our expenses and lower the costs to you. 1, 2 or 3 cent stamps are accepted for small sums—under \$1.00.

**Postal rates.** We prepay all items unless listed "postage extra," when the order is for \$1.00 or more. If under \$1.00, send 25c extra. If you wish to add a little for postage it will not be refused. When postage extra is required or if sales tax is due and you do not send, we notify you before shipping and charge you 5c for the notice. Thus we both lose. Better to send in the first place.

If you want your order to go **Express Collect** for added safety and protection we include either larger sizes or extras. If by **air mail** we charge the customer only the excess cost above that required by regular parcel post. Estimate this and state you will promptly pay the difference if not enough.

**Insurance** up to \$10.00, 10c. \$10.00 to \$50.00, 20c. Postal insurance covers all except freezing in transit. **Special Handling** costs 25c up to 2 lbs.; 2 to 10 lbs., 35c. **Special Delivery** is better as it also speeds delivery and is handled more carefully. We are not responsible if plants are not immediately taken indoors. Up to 2 lbs. costs 45c. 2 to 10 lbs., 55c. Over 10 lbs., 70c. Each fee is for one package only.

**Wholesale.** We give no discounts to dealers. There are several items we can supply wholesale. Send your want list and we will quote our best quantity prices. We can quote African Violets at wholesale.

**Foreign Orders.** If postage exceeds that to our 8th postal zone we charge the excess. Include a little extra for excess postage. **Canadians** should apply to Sec. of Destructive Insects and Pest Act, Advisory Board, Ottawa, Ontario, for Permit and labels and send with order. **Important.** A new Canadian regulation requires a Certificate of Health, from our Inspector, to accompany each shipment. To do this he must make a special inspection of each order. He charges us 50c for this which you must pay. Please add 50c to each order for this purpose. This 50c fee applies also to all foreign orders. Many Latin American Countries have laws governing importations. Be sure to inform yourself and act accordingly. Ask your postmaster.

**Partial Shipments** are made if bulbs are not all dormant at same time. We deliver everything within the season for correct planting. We must collect from you the fees for Insurance, Special Handling, Special Delivery and all Export fees mentioned above on each partial shipment and on each package of the same shipment if more than one is necessary. Please say that you will pay the difference if you have not sent enough.

**We guarantee** our bulbs to be true to name and healthy and replace them if not. If you follow our directions in this catalog, they will grow and flower. We cannot assume responsibility if you do not. As necessary **culture directions** are in this catalog, we send none with the bulbs and other plants.

**Catalogs.** **Spring** Catalog mailed Jan. 15. **Fall** Catalog, Aug. 15, or soon after. If you do not send us your orders your name is dropped from our mailing list. If not interested please refuse catalog or ask P.M. to return at our expense. Current catalogs are free. If an old catalog is wanted, please send a dime for it.

**We ship** safely to all parts of the world.

### General Culture Directions

Rich sandy loam is the best soil. But if too sandy, it may lack fertility. It will require more rainfall or irrigation. The ideal garden soil will contain sand, clay and humus.

All soils require the addition of much humus. Compost all garbage, weeds, leaves, cut branches and manures. When rotted, add to soil and thoroly mix.

**Fertilizer.** We recommend only animal manures, compost and commercial fertilizers that are mostly of organic origin such as **Spoonit**, listed in this catalog. In the outside garden fresh manure can be used on most plants that are growing vigorously as a very light mulch, but after flowering. Too much fertilizer before flowering may almost or wholly stop the flowers. When the growth of a plant becomes abnormally rapid it is unlikely to flower or produce fruits.

Do not fertilize a plant in dry soil, or use manure (unless thoroly rotted in a compost heap) in the soil before planting bulbs, seeds or plants. Water lawns, trees, and plants well the day before applying fertilizer and again a few days after application. Do not fertilize a sick plant in order to make it well. You are more likely to make it worse or even kill it. Small plants and seedlings should not have too much either. Lush, rapid growth may be weak and "flabby." Sturdy growth with firm structure is better. Little and often is the best rule for fertilizing.

Compare plants with people. Both are living, organic beings. Air, water and food are necessary for their growth and health. But one does not give babies beefsteak, fried potatoes, apple pie and a cup of coffee. Nor is this a good diet for an invalid or an ill person, however good it may be for one in vigorous health who performs hard physical labor. Nor should plants be over-fed or fed at all if sick or thirsty. But since one cannot add much rich food when potting a bulb, very good results may be obtained by a monthly feeding of very weak liquid manure, color of very weak tea. A more convenient way is to use **Spoonit**, which we list under Garden Supplies.

**After blooming**, many neglect their bulbs. As a result the bulbs do not flower the following year. For success one must continue to give good culture. This is the time to fertilize, irrigate and cultivate frequently, until yellowing foliage indicates the bulb is becoming dormant. During this growth period next year's flower buds are formed.

**Depth of planting and distance apart** often cause too much concern. Bulbs usually have sufficient adaptability to do well under widely varying conditions. If left in one place a few years, most bulbs adjust themselves to their preferred depth. Approximately, bulbs should be about 2 or 3 times their diameter apart unless their habit of growth is spreading—like *Ranunculus*. In such cases plant farther apart. Bulbs as large as *Daffodils* may be 4" to 6" deep. Bulbs with a heavy erect stem need deep planting in order to remain erect. Plant deeper in light sandy soil than in heavy soils and in cold climates to protect them from frost. A winter mulch will help protect.

**Pests.** Snails, slugs, ants, mealy bugs, thrips, aphids, leaf hoppers, mites, red spider and scale are among the most serious pests in the garden or on house and greenhouse plants. They must be controlled. See our listing of **Insecticides** under **Garden Supplies**.

**Acid and Alkaline Soils.** Most plants thrive in mildly acid, neutral or mildly alkaline soils. But others do not have so wide a range of tolerance. *Rhododendrons*, *Azaleas*, *Camellias*, *Gardenias*, *Zantedeschias*, *Caladiums* (and other members of *Arum* family), *Nerines*, *Haemanthus*, *Gloxinias*, *Begonias*, *Orchids* and most shade loving plants require an acid soil. Some like *Gladiolus* prefer mildly acid to neutral soils; *Bearded Iris* do best in neutral to alkaline soils. The acid-alkali balance depends upon the concentration of hydrogen ions in a saturated solution. This is expressed in pH units. pH7 is neutral. Below that the acidity increases; above it the alkalinity increases. For the mathematical, I will explain that the numeral is the negative logarithm denoting the concentration of hydrogen ions in gram atoms per liter.

In regions having heavy rainfall, excess alkali is usually dissolved and carried away by the runoff. Semi-arid regions usually have alkaline soils. Calif. soils usually have too much unless cover crops or applications of humus, which are acid, have lowered the pH. Some Texas soils are too alkaline. The remedy is obvious. Apply humus, ground phosphate rock, or small, even applications of sulphur. Improve the drainage.

**Chlorosis** of plants, indicated by lighter green streaks of foliage, may not be due to a virus disease, in all cases. It may indicate lack of all required nutrients, some of which cannot go into solution in an alkaline medium. Among such nutrients are Nitrogen and Iron which are soluble only in acids. Mild acidity is usually best. Iron Chelate in minute quantities often corrects chlorosis. Be careful. It burns if too strong. Iron Chelate is now added to Spoonit.

**Potting Directions.** Use clean pots of the right size, neither too large nor too small. A 2½" Amaryllis, for example, needs a 6" pot. A 1½" Eucharis needs a 5" pot. Small bulbs like Ranunculus or Achimenes may have 3 to 5 in a 5" or 6" pot. Cover the hole at bottom with a piece of broken pot, concave side down. Above this place a handful of sphagnum moss to prevent the soil from sifting into and clogging the drainage material.

The drainage must be perfect and it is essential that the soil above this drainage be of a friable texture that permits water to pass thru freely. Only sandy soil will answer this purpose. Add enough sand so that it feels very gritty. The potting soil we like best is about 2 parts of peat or leaf mould and 1 of sand. If peat is used a little woods earth or pure rotted leaves and twigs may be added. Plain dirt, especially if clay is present, or any mixture that becomes lumpy when dry is likely to produce poor results. Mulch surface with wet sphagnum to prevent erosion when watering and too rapid drying at surface. Special directions are given for certain plants with the listing.

**Basketing.** Vining or pendant plants like Achimenes, Aeschynanthus and several of the other Gesneriaceae, Begonia Lloydii, Ceropegias, etc. look best and do best in our wire baskets, altho they can be grown in pots, suspended by the "Snap-on" pot hangers. Wire baskets allow perfect drainage and we prefer them also for some orchids like Laelias. We offer the best wire baskets made. Painted wire baskets soon rust out. Ours are galvanized, polished, not soldered but welded.

Place a thick layer of wet sphagnum on bottom and sides of basket. It should be well compressed and at least 1" or 2" thick. For the center one can use a mixture of peat, leaf mould and sand—or any soil formula favorable to the plant. For certain Orchids, Episcias and sometimes other plants, we use only sphagnum thruout.

**Fertilizers** for pots and baskets. The soils recommended above are low in fertility. One cannot add enough to last an entire season. Such an amount would burn the young roots as rapidly as formed. A small quantity of dry, powdered dairy manure is safe but we seldom use it. We prefer to add 1 tablespoonful of bone meal which is slowly soluble and slow acting and a level teaspoonful of blood meal, which is strong and quick in action, to each 6" potful of soil. Too much blood will burn. When plants are in full growth, they may be fed with weak liquid manure, color of weak tea, every three to four weeks. Spoonit supplies a more complete ration, better balanced and more convenient. Use of inorganic forms of nitrogen can have bad results.

**Sources of Further Information.** Always consider the source of your information. Experience is worth more than reading knowledge. Commercial growers usually have had the experience. Please note our **Garden Reference Books**. Join local Garden Clubs. Subscribe for as many Garden Magazines as you have time to read. We especially recommend **The Flower Grower**, Dept. H., Albany, N.Y., **Popular Gardening**, Dept. H, 383 Madison Ave., New York 17, N.Y., **Horticulture**, Dept. H, Boston 15, Mass., **Sunset Magazine**, Menlo Park, Calif., **The Gloxinian**, Elvin McDonald, Gary, Oklahoma.

## GARDEN REFERENCE BOOKS

**Bailey's Cyclopedic of Horticulture.** This 3-vol. set of over 3,600 pages describes almost every cultivated plant and has a wealth of culture information. Price \$52.00.

**Hortus Second** (Bailey). A concise Dictionary of Gardening. This 778-page volume lists and describes nearly every plant offered in catalogs, and some that are not in the Cyclopedic of Hort. It contains a few culture hints. Price \$13.50.

Gardeners who desire really scientific information about plants will find it in **Baileya** a quarterly journal of plant taxonomy (classification of plants). We can supply June Bailey, 1957, for 50c per copy, postpaid. We pay 50c ea., hence we lose the cost of postage.

**Amaryllis and How to Grow Them**, by Peggy Schulz. This book was written for amateurs and by a well known amateur. It contains much useful information. 128 pages, many line drawings, photographs and two colored plates. \$2.95.

**Bulb Magic In Your Window**. 100 bulbs to grow in your window, from Achimenes to Zephyranthes. 214 pages. 3 color plates and 42 full page illustrations. Complete growing instructions. \$3.95.

**Enjoy Your House Plants**. Excellent handbook of window gardening by Dorothy Jenkins and Helen Van Pelt Wilson. 238 pages. Price, \$3.00.

**The New Greenhouse Gardening for Everyone**, Ernest Chabot. Important factors are noted, including correct temperatures for forcing plants, bulbs, and orchids. \$4.75.

**How to Grow Rare Greenhouse Plants**. A new book on greenhouse gardening by Ernest Chabot. Complete directions for greenhouse culture of 260 rare plants. Everyone having a greenhouse should have both books. 182 pages. Illustrated. \$4.00.

**Geraniums, Pelargoniums**, by Helen Van Pelt Wilson. 248 pages, 7 color plates, many drawings and illustrations. Best book on this subject. \$4.50.

**Gloxinias, and How to Grow Them**, by Peggy Schulz. Illustrated by colored plates and line drawings. Many Gloxinia relatives discussed, 128 pages. \$3.50.

**Growing Plants Under Artificial Lights**, by Peggy Schulz. 146 pages. One color plate and many illustrations. \$3.50.

**Tuberous Begonias**, by Worth Brown. Mr. Brown is one of our most important hybridizers and wholesale growers. His book is a complete guide for the successful growing and propagation, outdoors or as house plants. 128 pages, illustrated. \$3.50.

**The Complete Book of African Violets**, by Helen Van Pelt Wilson. This is completely new and gives best information on hundreds of varieties. 29 Saintpaulias are shown in full color. 256 pages, fully illustrated. \$3.50.

**How to Grow African Violets**, by Carolyn Rector. 62 pages, paper-board covers. Illustrated. How to grow from seed, prepare potting soils, pollinate and hybridize, control pests, diseases, groom plants for show and grow from leaf cuttings. \$1.50.

**An Easy Guide to African-Violets**, by William L. Meachem. For beginner or expert, it is all here — an easy guide to an absorbing hobby. 61 pages. \$1.95.

**Arranging African-Violets**, for home decoration, by Emily Stuebing. 111 pages with 40 original halftone illustrations. \$2.95.

**The Little Bulbs**, by Elizabeth Lawrence. Learn the charm of growing little bulbs. Miss Lawrence is a dedicated gardener. She won the Herbert Medal for her book "A Southern Garden" in 1943. \$4.00.

**How to Grow Orchids**, by Cecil Houdyshel. This booklet has recently been revised and is now 12 pages (formerly only 10 pages). The price is now 75c, postpaid.

**Amaryllis Manual**, by Hamilton P. Traub. Dr. Traub, editor of Plant Life, has long been regarded as a world authority on the botany and cultivation of the Amaryllis. Culture, ornamental uses, and many forms of the species are treated in detail in this first complete and scientific work. Accompanying appendices provide the botanist with all the information he requires for a thorough knowledge of this important group of flowers. Illustrated. \$7.50.

### Garden Supplies

Postage Extra is necessary on several items below. The weight when packed is given on these items. It is clearly stated that you must send the postage when you order. Here



is how to find it. We are very near Los Angeles. Call your P.O. and ask the cost of postage on the packed weight given from your P.O. to Los Angeles and send us that amount. Orchids that are shipped in pots or baskets are sent by express f.o.b. The minimum cost is \$1.85.

**Vio-Vim**, a fungicide and bactericide for African Violets. 75c prepaid. Its effect is apparent in the stimulated growth of the plant.

**Isotox**. Improved Isotox Garden Spray M. For African Violets use 1 teaspoon to one gallon of water. Mix well. \$1.19 for 4 oz. bottle. By mail add 20c for postage and packing, plus 5c Sales Tax in Calif. Wonder Garden Spray, \$1.30, postpaid, plus 5c tax in Calif.

We assume no risk for results with insecticides. Read instructions carefully.

**Spoonit** is the fertilizer we use on African Violets and on all house plants. A new, improved formula is now available. **Analysis:** nitrogen, 18%; phosphoric acid, 20%; potash, 16%. To use, dissolve level tablespoonful in 1 gal. water or level teaspoonful in 1 qt. Give Transplants half strength. Apply every 3 or 4 weeks. It never burns. **Prices:** 6 oz. package 60c plus 8c postage. 15 oz. pkg., \$1.25, plus postage on 1 lb. (See paragraph 1 above.) 2½ lb. pkg., \$2.50 plus postage on 3 lbs. Try the new **Orchid Spoonit**, 1 lb. \$1.25 plus postage on two lbs.

**Black Magic, African Violet Mix**. The users praise it. 8 oz., price 59c plus postage. Dampen before using.

**Horticultural Peat**. High quality. 3 lbs., 50c. Send postage for 5 lbs.

**N.P.I.** A new planter mix. 150 cubic inches, 49c, postage for 2 lbs. 600 cubic inches, \$1.49, postage for 4 lbs. A Nutralite product.

**Blue Whale**. 100% organic. Bantam size ¾ cubic feet, \$1.50 f.o.b. Express. Ask us to quote prices on larger sizes. Small, 69c; postage for 2 lbs.

**Sphagnum Moss**. Best we can get. 70c per lb. gross weight. Postage extra, for 1 lb.

**Plant Labels**. The following are plastic labels, easily written upon with pencil. **Pot Labels**, length 4½", 35c doz. Length 3½", 30c doz. Small labels for African Violets, 2" long, 20c doz. 75c for 100. **Orchid Labels**. Perforated on one end, but without wire or cord, 2½", 30c doz. **Aluminum Tree Labels**. Emboss name on label with sharp pencil or ball point pen. Two sheets of Aluminum make this strong and permanent, with wire to tie on, 35c doz. Package of 50, \$1.00.

**Wire Baskets**. Our wire baskets are electrically welded, galvanized, non-rusting. The best obtainable. They look better, last longer than painted, soldered baskets and cost but little more. Price, with hangers, 8", \$1.00 ea., \$11/doz. 10", \$1.25 ea., \$13.50/doz. 16", \$2.75 ea., \$25.00/doz., postpaid.

**Snap On Pot Hangers**, for hanging any size pot. Galvanized. 50c ea., \$5.00/doz. Three or more, postpaid. On less, send 10c ea. for postage.

**Baffle Spray Fogger**. For greenhouse, lathhouse or outside. Fits ½" pipe. Adjustable fog spray thrown 6 ft. increases humidity, lowers temperature. Price, \$2.10. If by mail add 10c.

**Rootone** with Fungicide—Stimulates roots, controls soil diseases. Dust seeds, roots of transplants, end of cuttings or base of bulbs for quick rooting, more rapid growth. 2 oz. jar \$1.00.

**Vitamin B-1**, 100 tablets, 75c.

**Directions for use**, applying only to our own tablets. In transplanting bulbs or any plants, loose roots, dissolve 5 tablets in 1 gal. of water. Soak roots in this 15 to 30 min. Pour solution around plant when set. To stimulate growing plants, for the first application, dissolve one tab. in 2 gal. water. For succeeding waterings, use 1 tab. to 4 gal. water once a week. **Warning**. Do not soak dormant bulbs in Vit. B-1. It rots them.

## CATALOG ARRANGEMENT

is by Plant Families, according to their relationship.

In the following lists the **genus** (plu. genera) is mentioned first. After it, the species (plu. also species) or horticultural variety is named. The initial of the genus is used for the second and succeeding species. Thus *A.* will stand for *Amaryllis* or *Agapanthus* depending on the genus last named in full.

### THE AMARYLLIS FAMILY — *Amaryllidaceae*

This Family includes the following bulbs, *Agapanthus* thru *Zephyranthes*.

**The American Plant Life Society** was founded in 1934 as The American *Amaryllis* Society. The interests of the Society have recently been enlarged to include other bulbs and plants and the name changed but with no lessening of interest in *Amaryllids*.

The annual book, "**Herbertia**," is devoted to *Amaryllids*. It consists of about 250 pages, beautifully illustrated, on fine book paper, and is edited by Dr. Hamilton P. Traub of the U.S. Dept. of Agriculture, (now retired) the greatest living authority on the *Amaryllidaceae*. Each member receives a copy.

The members also receive the occasional publication, "Plant Life," on other bulbs and plants. Due to present increased costs these publications at present are included in one volume per year.

Those who grow *Amaryllis* as an interesting and intellectual hobby and who love their vivid beauty, are invited to become members of the society. The annual dues are \$3.50 per year, which you may send to Thomas W. Whitaker, Executive Secy., Box 150, La Jolla, Calif.

**Agapanthus**, Blue Lily of the Nile. They flower here in June to Aug. In the north they must be grown in large pots or tubs and wintered in a frost free room. Plant in full sun exposure in any good sandy garden soil that drains well.

**Agapanthus longispathus**. Similar to well known *A. orientalis*, but smaller and earlier to flower. Profuse bloomer. For pot growing. 50c, 3 for \$1.25.

**A. orientalis**. Dark Blue. Larger than *longispathus*. Superior clone. \$1.50.

**A. orientalis**. Sky Blue. 75c.

**A. orientalis alba**. Pure White. \$2.00.

**A. von Wellighi hybrids**. Selected clone. A giant type, very large, round umbel of blue flowers on a tall stem. Late flowering, extending the season. \$2.50.

**Alstroemeria chilensis hybrids**, assorted colors, red, rose, pink, cream, white in a multitude of shades. Separate colors not available. Large tubers 50c.

**A. pulchella**. Smaller plant. Umbels of green and red fls. 40c.

**A. assorted varieties**. These will be smaller clumps. 40c. \$4/doz.

**A. Seed**. Assorted varieties Plant as soon as received. Packet, 50c.

**Amarcrinum Howardi**. Bigeneric hybrid of *Brunsvigia rosea* and *Crinum moorei*. Beautiful, fragrant, pure pink fls. Fall bloomer. Culture like *Crinums*. Hardy to So. Indiana. Large bulbs, \$2.50. Sm. \$1.25.

**A. Dorothy Hannibal**, a *Les Hannibal* origination. A new introduction. Like *Crinum Cecil Houdyshel* it flowers in all seasons. The flowers are a very pretty pink. Price, \$7.50.

**Amaryllis** are the easiest, the most showy and popular of all bulbs for growing in pots. Equally desirable for southern gardens where they are hardy along the east coast to N. Car. and on the west to Vancouver. In the middle section they may be grown as far north as Ark. and Okla., but note special directions for colder sections.

**How to Grow Amaryllis**. In the garden, in the deep south where temperatures go only a few degrees under freezing, *Amaryllis* bulbs need to be covered only about an inch or two. Farther north they may be planted deeper in protected places and mulched with



straw, leaves and/or brush. In Okla., a customer reports a depth of 4" with mulch is safe. Try our "Hardy Hybrids." *Amaryllis* must not be planted close to trees, shrubs or large vigorous plants, whose roots compete and take the moisture. Irrigate frequently. Rain is seldom enough. The most common error is lack of sufficient moisture. They are endemic to the tropics and in many cases, where there is almost daily rain. The soil should contain much humus. Add well rotted manure and if not slightly acid, add some peat but do not acidify the soil with sulphur or aluminum sulphate. We do not advise planting imported, greenhouse grown bulbs in the outside garden. They seldom do well outside.

**In Pots.** A 2½" bulb requires a 6" pot. Give a 3" to 3½" bulb a 7" pot. Remove dead roots but every vestige of living root should be left on. Our best success in flowering *Amaryllis* and in growing them on to larger, better bulbs is in a soil mixture composed of clean, sharp sand one part by volume and a mixture of pure organic material two or three parts. The latter may be pure peat or about half peat and half well broken up or decayed leaf mould, woods earth or completely reduced compost. The final mixture should have enough sand to feel very gritty. Such a mixture drains quickly but retains enough moisture around the roots.

To this mixture we add a tablespoon of bone meal and a level teaspoon of blood meal for each 6" pot. This is enough fertilizer until after bulbs have flowered.

One curved piece of pot over pot hole is sufficient for good drainage. Cover this with a layer of wet sphagnum. Set bulb in soil and mulch top surface with a layer of wet sphagnum. The neck and about ½ of bulb should be above soil surface. This surface should be ½" below pot rim. In potting carefully spread out all living roots as they are a great advantage to bulbs. Such bulbs will start more quickly and may be given a warm temperature at once. If there are few or no living roots on bulbs, set them first in a cool place, about 50°, for roots to form and growth start.

We water at once and again when growth has started. With mixture above advised, one is not likely to over water tho you should be a little careful at first, if the bulb had no living roots. For as long as they will grow, potted *Amaryllis* need frequent watering. They are not only heavy drinkers but gross feeders. If you give liquid manure or Spoonit every 3 weeks, it will be about right. It is also good to vary the diet.

*Amaryllis* like the sun. If the foliage fades the sun may be too strong or you may not be watering enough. In mid summer in our greenhouses we usually have to apply a little shading to the glass, partly on account of temperatures which may go to over 100° even in our air conditioned houses. Whitewash shading can be washed off when cooler weather arrives. In the house, give them a sunny window. Keep the bulbs growing vigorously until fall, Oct. or Nov. When outer leaves begin to go down, buds have been formed for next season's flowers and bulbs may be dried off and stored in a cool place. Inspect frequently. For early flowers, dry off about Nov. 1, or earlier.

This describes the method we used. 2½" to 3¼" bulbs potted from Dec. to about Mar. increased in size. A few burst their 7" pots. Some became fully 5" in diam.

**A. ambigua.** Lily shaped, white flowers with pink markings, on tall straight stems. 5 to 7 flowers in an umbel. The exquisite spicy fragrance perfumes the entire garden. Plant 4" deep in garden in south, to Okla. Believed to be a natural hybrid of *A. elegans* and *A. vittata*. \$2.50.

**A. bifida.** Formerly known as *A. advena*. **Ox-blood Lily.** This is a fall bloomer. Hardy to So. Ind., Ill., Mo., Kansas, etc. There are 5 to 8 dark red fls. in an umbel. Not suitable for pots. Fall special, 35c ea. 3/\$1.00; \$3.50/doz. Smaller blooming size, \$12.50/100.

**A. psittacina.** The parrot colored *Amaryllis* as the name indicates. It comes from S. Brazil and blooms in winter here. The frost usually ruins many of the flowers. The green tinted flowers with carmine lines and edges are very attractive and unusual. The bulb is very large and long necked. This species is hard to get and we have few. Price \$9.00. It does well in pots.

**Hybrid Amaryllis.** The Howard and Smith strain is considered to be the best American strain. These are grown from seed produced by moving selected field grown bulbs to greenhouses. There they are hand pollinated with each other and with a large stock of Dutch varieties. The resulting seedlings are field grown to flowering sizes. In the field, weak varieties perish. The surviving bulbs are thus far easier to grow outside in the south than imported, greenhouse grown bulbs.

**Assorted Colors.** These include White Backgrounds, various shades and markings of red, pink, scarlet, rose, etc. 90c ea. 3/\$2.50. 6/\$4.65. 12/\$9.25.

**Hardy Hybrids.** These are not hardy outdoors in the colder states but as far north as North Carolina, Washington, D.C., and Oklahoma these have proven winter hardy if covered by 4" of soil and given a good winter mulch of straw.

This is an extremely vigorous, rapid growing and multiplying strain and equally prolific with flowers. There are always a few flowers in the field in the fall. They might give winter flowers in pots. Most of them are similar in color, orange scarlet with white throat and green keel. An ideal strain for outside planting and landscape effects. Their bright vivid color "hits you in the eye." Altho not an exhibition type, many will like them in pots, where they are easier to grow than the more aristocratic hybrids, and their bright cheerful colors will be most welcome. 75c ea. \$7.00/doz.

**Dutch Hybrids.** The most perfect of all Amaryllis, in form, coloring and size of flowers are the Royal Dutch or Warmenhoven strain and the Ludwig strain. These we import from Holland. They represent the highest development of the Leopoldi hybrids, having more nearly flat flowers and shorter trumpets. The colors also have been developed into the most exquisite shades and in solid colors.

**Ratings.** Many of the following varieties have been tested at Valleevue Test Gardens, Cleveland, O. Known ratings are given. The highest rating is AA. Dutch growers have reduced prices and we therefore lower ours.

**Dutch bulb sizes.** All are good flowering sizes. We guarantee safe arrival of true to name bulbs. We will begin mailing the Dutch Amaryllis after November 15. If wanted earlier you may pick them up at the nursery in pots. We have others in too small quantities to list that may be purchased at the nursery.

**Royal Dutch or Warmenhoven strain:**

**Bordeaux.** A. Bordeaux or deep wine red. \$5.25.

**Queen's Page.** AA. Fls. over 8", delicate salmon color. Very wide round petals and a perfect contour. \$5.75.

**Red Master.** AA. This variety is in greater demand than any other. Very dark Bordeaux red of immense size, 10" diam. Order early. Last year we sold out before bulbs arrived. \$7.00.

**Salmonetta.** A. Bright salmon-pink, shaded orange in throat. 8" flowers. \$5.75.

**Sweet Seventeen.** B. 9" fls., salmon-rose pink. A favorite. \$6.25.

**Violetta.** Violet tinted rose. Unusual color, large fls. \$5.25.

**Ludwig Amaryllis:**

**Bouquet.** A. 8½" fls. begonia pink shading to rose in throat. A very beautiful flower. \$9.00. Tom Manley said, "The best Amaryllis I have ever seen."

**Doris Lillian.** A. 7½" fls. of deep carmine rose. Perfect contour. A beauty. \$8.00.

**Miss Margaret Truman.** AA. 8" fls. of porcelain rose or rose pink of great beauty. \$8.00.

**Roseline.** 7" nicely rounded fls. of carmine rose pink, lighter in throat. This is a very good pink at a low price. \$5.50.

**Snow Queen.** B. 7½" pure snow white fls., with minutely waved edges which add to its very refined appearance. \$5.50.

**Wyndham Hayward.** AA. 9" fls. of dark orient red. Fine contour. One of the nearest perfect. Named in honor of Wyndham Hayward. \$8.00.

**Seedlings of Dutch Amaryllis.** We have made some crosses and all bulbs are of high quality and equal to imported bulbs. Not all are flowering sizes but most should flower.

**Pink Favorite seedlings, Queen of the Whites or Van Tubergen Pinks.** Small bulbs, \$4.00. One of each for \$10.00.

**Queen's Page, Queen's Page x Alcgone, Sweet 17, Violetta, or Striped Superiora,** \$2.50 each. One each of the five for \$10.50.

**Special Price.** One each of the 8 varieties of seedlings for \$19.00.

**Brunsvigia rosea.** Familiar in California and the south as Amaryllis belladonna, Naked Lady Lily, etc. It is hardy where minimum winter temperatures are 10° above zero. It will be safe to plant it on the east coast to N. Car. and to Washington, D.C.; thruout the south where winters are mild; on the Pacific Coast to Vancouver. A customer in So. Ind. reports them hardy and flowering. They seldom succeed in pots. We have had reports of good growth but no flowers in Fla., Miss., and La. This So. African does well where there is no heavy rainfall from May 1 to Aug. 1 as here or in its habitat. The flowers are an exquisite pink with a fine fragrance. Aug. and Sept. visitors to So. Calif. take back home the memory of these and want them.

**B. rosea major hybrids,** fine colors. 35c ea. 3/\$1.00. 50c ea. 3/\$1.35.

**B. rosea minor.** Makes smaller bulbs and flowers. Bloom later. Rare, beautiful, 40c ea. \$4.00/doz.

**B. rosea minor hybrids.** This is a fine assortment, ranging from rose to very dark rose, always with a light throat, 40c ea. 3/\$1.10. \$4/doz. 50c ea. 3/\$1.35. \$5/doz.

**B. multiflora Parkeri.** These are darker rose, some being very dark. The most beautiful of all. 50c ea. 3/\$1.35. \$5/doz. Larger bulbs 75c ea. 3/\$2.00.

**Clivias** have evergreen, strap-like foliage somewhat resembling that of Amaryllis. The orange flowers are produced in umbels of 10 to 25 in March and April.

**Culture.** They are usually grown in pots, even in the south, as more perfect foliage is thus possible, and when in flower one wants them in the house. We grow them in a lath house, lath spaced ½" apart, and in garden under Avocado (evergreen) trees, directly in the soil as they are often grown in Calif. When grown thus they will make very large clumps. They must have shade with only a few flecks of sunshine, but plenty of light and air.

Clivias must never be dried off or allowed to lose their foliage. Keep them well watered after flowering, all summer and fall. Liquid fertilizer occasionally helps. When growth ceases in late fall rest them by giving them less water. But keep moist enough to prevent wilting of foliage. At this time they should have a cool room with temperatures from above 32° to not much over 50°. Pots should be 6" to 8" for small plants and up to 12" for larger. As they grow and increase, do not divide but shift to larger pots. Drainage must be perfect. Potting soil as described under "General Culture Directions." pH 7 is about right. One cannot guarantee a Clivia to flower the first year after moving tho they usually do.

The foliage of our Clivias, grown outside in the ground will not be as perfect as that of pot grown plants. But when potted, they replace the old foliage in a few months and become specimen plants.

**Clivia miniata.** Wide open soft yellow orange fls. \$1.00, \$2.00 and \$2.75. Only the \$2.75 is likely to flower.

**C. cyrtanthiflora.** The flowers are tubular and long, yet they are so numerous that they fill a large umbel and make a beautiful floral display. They are distinctly different from other Clivias also in their time of flowering. There is not a month in the year when we do not sometimes have flowers. Price, \$15.00.

**C. European Hybrids.** The large flowers have well rounded petals of red-orange and the wide leaves are ornamental. This is the most desirable of all *Clivias*. Selected fine large plants, blooming size, \$6.50. Young small plants \$2.50 ea.

**Crinum.** See Spring Catalog. **Crinum Cecil Houdyshel.** \$1.50, jumbo, \$3.00.

**Cyrtanthus Henryae, Richard Warrill.** A fine hybrid by Mrs. Henry. Everblooming, salmon red. Soil and culture like *Amaryllis* but no dormant season. Very rare. \$3.00.

**Eucharis amazonica** (or *Grandiflora*). Eucharist Lily. Star of Bethlehem. First collected on Banks of Rio Magdalena, Colombia, S.A. Thus are combined three Biblical names in the lore of this flower. There are 4 pure white, very fragrant flowers in an umbel with a cup in center. The beautiful evergreen foliage makes this always a decorative plant. Flowers are used in corsages and bouquets.

**Culture.** For pots only. We grow in 5" pots and shift to larger when too full, but crowding encourages bloom. We use exactly the same soil as for *Amaryllis*, including a tablespoonful of bone meal to a pot. Because they need abundance of water when growing vigorously and blooming, the drainage must be perfect. They are shade plants but need strong light and some sun, when growing well, to develop flowers. Keep them well fertilized with liquid fertilizer. We use Spoonit. As growing plants, in foliage, they may be transplanted and go right on growing, this is the better way. Dry bulbs start very slowly and this method will save you much time. When received, pot at once and give full shade for a week, then gradually give a little more light and finally more sun. Keep them growing vigorously for several months until offsets appear and pot is well filled. Then dry them off, giving only enough water to prevent loss of foliage. After a few weeks rest, water once or twice. If they do not flower the rest was not long enough or the growth before was not sufficient. Or you may not have given them enough sun. Experienced growers get as many as four crops of flowers in a year. *Eucharis* are tropical plants and 65° is the best minimum night temperature. Price, out of pot, postpaid, \$3.00 or f.o.b. in pots by express, \$2.50. Delivery by mail only in warm weather.

**Habranthus** bloom several times a year and at most any time. Culture like *Amaryllis*. After good growth, if allowed to get rather dry for a period they will usually flower after a good watering. Umbels have but one flower. **H. brachyandrus**, lavender purple fls., 75c. **H. robustus**, pink lavender, 60c.

**Haemanthus.** The Blood Lilies of South Africa. So rare that few have seen them.

**Culture.** Hardy only in almost frost free climate like So. Calif. or Fla., if temperatures do not go below 24° at night. They do well in pots anywhere. The soil should be as for *Amaryllis*. They should have about half sun exposure. Pot with bulb only lightly covered.

*Haemanthus* produces red fruits containing seed. The flowers require hand pollination which may be done by rubbing palm of hand over the flower umbel when pollen is ripe. This spreads it to the pistils. Do this frequently as flowers do not all open at one time. Thus many valuable seed may be produced. Do not gather until quite red. When ready to plant, remove outer pulp and plant by pressing seed down slightly into soil but do not cover. One may plant in large clay pans and covered by pane of glass. Thus no watering may be needed until most of the seed are started. Growth begins by emergence of a radicle which will penetrate the soil. If soil is not loose, it may need help. A small bulb will form on tip of radicle and will later send up a leaf. Species are easily crossed to produce hybrids if anthers of mother plant are removed before ripening of pollen. Store pollen in advance in small stoppered glass phials, in refrigerator at 45°.

**H. coccineus.** The true Blood Lily, altho all *Haemanthus* are known as Blood Lilies. The umbel of scarlet or blood-red flowers comes in late Aug. to Sept., after a 3 months dormancy. Two long semi-erect leaves follow the flowers and remain green thru the winter and early spring. The scape is attractively marked by red spots on a bright background. Flowering sizes, \$2.00. Extra large, that should give two scapes, \$4.00.

**H. multiflorus.** In general appearance, it resembles *Katherinae*. Stem heavily spotted brown. This species is ideal for pots as it is more tropical and more tender. Blooms earlier. Flowers are described by botanists as blood-red but you may disagree. \$5.00 ea.

**Hemerocallis. Daylily.** The flowers range in color from dark bronzy red, thru pastel tones of pink to orange and yellow. They are borne on a branching scape well above the foliage.

The Greek name, meaning "beautiful for a day," refers to an individual flower. But these are so freely produced thru a long period that "beautiful every day" would be more apt, as a collection of several sorts shows masses of flowers thruout the spring, summer and fall and here we often have some winter flowers. The modern sobriquet of "The Perennial Supreme" is well deserved.

**Culture.** While their beauty is their greatest recommendation, their easy culture and hardiness add to their desirability. I have known abandoned plants here, where we have arid, hot summers, to persist for years. They grow well in full sun. Slight shade is better. If given constant moisture about their roots, preserving this and coolness of the earth with a good mulch, the plants are ideally situated and respond with generosity. They are hardy, even in severe winters in the north. They are fibrous rooted, not bulbs, and must be planted at once when received. Altho they can be moved any time, it is better to ship from late fall to early spring.

**Hemerocallis Araby.** 30". E. (evergreen). A lovely, pastel color, with the effect of bronze on gold dust. Blooms early. 75c.

**H. Calypso.** Large, fragrant lemon yellow flowers. Opens in evening. 42". June-August. 30c ea.

**H. Cecil Houdyshel.** E. A Dr. Traub origination. A deep crimson with an old copper shade that makes it outstanding in our garden. Slight shade gives better color to flowers. 3 ft. June-July. \$1.00.

**H. Chengtu.** E. Brilliant coppery orange-red with carmine mid-zone. 36". July-Sept. 50c.

**H. Cinnabar.** E. Cinnamon, sprinkled with orange, gold-glistening. 30". July-Aug. 50c.

**H. Dauntless.** E. Cadmium yellow. Fulvous red blended in mid-zone. Pastel effect. 30". June-Aug. 75c.

**H. E. A. Bowles.** 48". Large ruffled flowers of deep red-orange blended with gold. Early. 50c.

**H. Evangeline.** 40". Large, rosy flowers with purple eye zone. Early. 75c.

**H. Florida.** Pastel shades. Light chrome yellow with rose blush. Darker mid-zone. July-Aug. \$1.50.

**H. Hyperion.** 36". Large canary colored flowers on long straight stems. Fine. Jul.-Aug. 75c.

**H. Iris Perry.** E. 36". July-Sept. Orange-bronze. 50c.

**H. Kanapaha.** A lovely cardinal red self, with raspberry suffusion. \$2.00.

**H. Kwanso.** The Double Orange Daylily. 25c ea. 3 for 50c.

**H. Linda.** E. Petals, ruffled golden yellow, flecked with cinnamon, and a rose zone. Sepals, pure yellow. Very lovely. June-July. 50c.

**H. Mandarin.** E. 48". Lemon yellow. June-July. 50c.

**H. Margaret Perry.** E. Brilliant orange-scarlet. 4 ft. July-August. 35c.

**H. Modesty.** 36". Large, pale, creamy yellow. Our nearest white. 50c.

**H. Nubiana.** E. Dark chocolate-red with yellow stripe in petals. One of the darkest varieties. 2 ft. 50c.

**H. Patricia.** 30". Pale yellow, large fragrant flowers. July-Aug. 50c.

**H. Purple Waters.** Rich wine, 50c.

**H. Old Vintage.** 42". E. A profuse bloomer of very deep wine colored with golden throat. May to July. \$1.00.

**H. Ophir.** A fine large, deep golden yellow. 60c.

**H. Radiant.** 42". Rich orange. June-July. 50c.

**H. Rosalind.** Famous pink Daylily. Pastel pink. \$1.50.

**H. Rosita.** E. 36". Near Carmine, tinted copper. Part shade best. \$1.00.

**H. Royal.** E. 40". Beautiful golden yellow. Fine texture. July. 75c.

**H. Royal Ruby.** All agree it is the finest red, to date. 40". July-Aug. \$2.50.

**H. Serenade.** 48". Rose on apricot cream. Faint dark overcast. June-July. 75c.

**H. Sibyl.** E. Dark red-purple petals, lighter sepals. \$2.00.

**H. Soudan.** 36". Lemon yellow. Broad, wavy petals and sepals. June-July. 50c.

**H. Spitfire.** 30". E. Fiery red with yellow mid-rib and throat, blooms continuously. Medium size. \$1.00.

**H. Vesta.** 30". Deep orange with glistening gold sheen. May-July. 50c.

**H. Vulcan.** E. 30". Darkest maroon red. July-Aug. 50c.

**H. Wau Bun.** Large apricot, sprinkled fulvous-red. The twisted and curved petals add gracefulness to its beauty. 75c.

**Complete Collection.** The entire list of 34 varieties are priced singly for \$27.50. They will be labelled with permanent aluminum garden labels, an added value, for \$24.75. If by express, f.o.b., we will send larger divisions.

**Leucojum aestivum.** Hardy in north. Blooms often before snow is gone. Dainty white flowers, each petal with a vivid green dot. Plant 4" to 6" deep. Do well in full sun, a little better in half shade. 3/35c. \$1.00/doz.

**Lycoris.** Oriental Spider Lilies are natives of Japan and China. The entrancing beauty of their flowers makes them the most popular of garden bulbs in the south and very desirable pot bulbs in the colder sections. The most tender is *L. aurea*. It is hardy only in the deep south. All the others are hardy up to Va., Ky., Okla., etc. They prefer sandy fertile soil with peat or leaf mould added, plentiful watering from mid-July.

**Lycoris albiflora.** Large white fls. with color markings. Almost hardy. \$1.00.

**L. aurea.** Golden Spider Lily. One of the most beautiful of all bulbs. Not hardy except in deep south. \$1.50.

**L. incarnata.** Flesh pink. Almost hardy. Free bloomer. \$1.00.

**L. radiata.** Red Spider Lily. Hardest of these listed above. Hardy to So. Kans. Deep coral red. 25c. 5/\$1. \$2.35 per doz.

**L. squamigera, Amaryllis Halli or Magic Lily.** Fine umbels of lilac-lavender flowers in August or later if planted later. Hardy in the north. Our bulbs are Indiana grown, the finest I ever saw. Price \$1.00 each. (Grown by Lillian Buckingham.)

**Nerine.** This genus includes some of the most beautiful of flowering bulbs. They bloom in succession from about Aug. to Jan. Hardy only where temperatures seldom go lower than 26°, but they are fine pot bulbs. **Culture.** Pot or plant in acid, sandy soil. Add peat or leaf mould. Pot at once with bulb covered and a little deeper in garden, in full sun. When foliage yellows, withhold water. Keep as near dry as possible when dormant. There is only one reason why you do not all buy Nerines. You do not know their beauty and ease of culture.

**Nerine Bowdenii.** 10 or more fine pink flowers in an umbel 9" wide on a 15" scape. One of the finest Nerines and very easy. 50c and 75c ea.

**N. Bowdenii, var. Pink Beauty.** Has larger, finer flowers and flowers much later, usually in late Dec. or early Jan. Multiplies rapidly yet we can seldom have enough stock to list. \$5.00 each.



**N. Bowdenii, var. Magnifice**, very fine improved Bowdenii, similar to Pink Beauty but flowers earlier. Extra special price, \$1.00 ea.

**N. flexuosa, var. Alba**. A lovely white Nerine. \$6.50.

**N. fothergilli hybrids**. Variable shades of red and pink. Some are Bowdenii crosses and similar in color. \$2.00.

**N. fothergilli, pink hybrid**. A lovely deep pink much admired in our garden. \$2.00.

**N. rosea-crispa**. Hybrid of Filifolia but larger in all parts. Can be kept evergreen or dried off in summer. 35c ea. \$3.00 doz.

**Sprekelia formosissima superba**. Orchid amaryllis. Deep crimson flowers in orchid-like form. Much larger than common type, better color, more flowers. Evergreen. Fine in pots. Culture like Amaryllis. 50c ea. 3/\$1.25. \$4.50 per doz.

**S. formosissima, type variety**. Similar color but slightly variable. 75c ea.

**Sternbergia lutea**. A small, yellow flowering, winter growing Amaryllid, often called "Fall Crocus." Culture like others of this type. Plant 3" deep. They are only a little short of winter hardy in the north and should succeed in protected situations in warmer sections of the middle south as far north as Philadelphia. 50c ea. \$3.50/doz.

**Tulbaghia violaceae**. Mauve flowers produced thruout the year, a true ever-bloomer. Foliage has garlic odor if bruised. An acquisition for pot culture. 25c ea. \$2.00 per doz.

**T. cepaceae**. Superior clone buds are a deeper color than violaceae and flowers more freely. 35c ea. \$3.00 doz.

**T. fragrans**. This species has a large, true bulb, with glaucous green foliage, 18" long and 1" wide. It has no allium odor. The plant is a profuse winter bloomer in a cool room with a few flowers in summer. It has larger fragrant flowers than violaceae, in the same color. Evergreen. Special price. \$1.00.

**Vallota purpurea**. Scarborough Lily. Large funnel shaped, scarlet flowers in late fall. Slightly difficult for inexperienced gardeners but very desirable. Grow in pots same soil as for Amaryllis with bone meal added, and top of bulb covered by 1" of compost. We can't guarantee our bulbs to flower this fall or at any time. Suggest you feed them with Spoonit or other liquid fertilizer. They are evergreen and must not completely dry off in winter. House or greenhouse culture is advised. They are a challenge to your gardening ability. Price \$7.50. Out of pots, postpaid or in pots (best way) f.o.b. express.

**Zephyranthes. Fairy lilies**. The smallest Amaryllid, 6"-12" tall. Fine in beds or borders. Hardy in middle south. In north, dig and store. They may be grown in pots. Give acid soil, sandy loam with leaf mould or peat. Full sun or slight shade.

**Z. Ajax. Hybrid**. Described as light yellow but seldom do you see one that is more than pale cream. Years ago we grew a great number of seedlings and selected the deepest yellow we have seen. It is really medium yellow and its seedlings are similar. \$1.00 each.

**Z. candida**. Pure white, evergreen. The masses of white flowers in late summer make them outstanding in a bed or edging for border. Half hardy and easy in pots. Special 50c/doz. Per 100, \$7.00.

**Z. rosea**. Small, but very lovely deep pink flowers. Fine in pots, about 8 in a 5" pot. 20c ea. 8 for \$1.50.

**Z. Sulphurea**. Deep yellow. 25c ea. \$2.00 doz.

**The Alliac**, or Onions, are now classed in Amaryllidaceae. The following are ornamental and useful for seasoning salads, soups or meats.

**Allium ampeloprasum**. Spanish Garlic or Burbank's Elephant Garlic. This is the largest, sweetest, juiciest garlic and the easiest to peel. It has a 30" flower scape with a large round umbel of white flowers. An ornament in the herb garden. Rapid multiplier. Sm. 3/25c. Large 35c ea. 4/\$1.00.

**A. tuberosum**. Japanese Garlic. Deliciously flavored leaves. Evergreen and probably not hardy in north. Sm. 2 for 25c. Large 25c ea.

## IRIS FAMILY—Iridaceae

The Iris is the type genus of this family. Bearded Iris and Gladiolus are the outstanding members. Maricas are lovely and curious house plants, truly "out of the ordinary."

**Tall Bearded Iris.** No garden is complete without Bearded Iris. When in flower call at our gardens and pick out colors you want. **Special Offer.** If you do not care for names, we offer surplus rhizomes, 20 to 30 var., no labels, 100 for \$8.00, f.o.b. express. If by mail, send postage for 12 lbs. **Collection** of 10 fine varieties, labelled, our selection, \$2.50. 20 varieties, labelled, \$4.50.

**I. unguicularis.** Hardy only as far north as Washington, D.C. Bluish lilac fls. in winter. Needs partial shade. Water frequently when first planted. 50c.

**I. Douglasiana, var. Watsoniana.** Blue. Calif. native. Hardy in north. 75c.

**Iris reticulata.** This, smallest of bulbous Iris, is most useful for potting. Fragrant, violet blue flowers in January to February. Four bulbs in a 5" pot. Give a sunny window in a cool room. Hardy in south and in north if well protected. 25c ea. or 4 for 80c.

**I. Spuria.** Assorted colors in mixtures only, blue, bronze, yellow. 35c ea. 3/\$1.00. \$3.00 doz.

### Dutch Iris

**Dutch Iris** are a must for the spring border. These are bulbous Iris. The flowers are not fragile like Bearded Iris and are therefore useful for cutting.

**Culture.** Plant in the fall before November if possible. Plant 1 to 3" apart and 3 to 4" deep depending on size of bulbs. They are hardy in milder sections of north but a mulch is advisable. Full sun or slight shade. New best varieties.

**Blue Champion.** Large flowering. Light blue. 3/30c. \$1.00 doz.

**Bronze Beauty.** Bronze falls and royal blue standards.

**Gold and Silver.** Pure white with golden falls.

**King Mauve.** Beautiful orchid mauve color.

**Le Mogol.** New tall bronze.

**Tangerine.** New outstanding. Large deep gold.

**White Pearl.** Huge. Pure white.

**Blue Ribbon** (Prof. Blauw). New large intense royal blue.

**Prices.** 3/30c. 6/55c. \$1.00 doz. 100/\$7.00.

### Freesias

Freesias are exquisite in beauty but their delicious fragrance is an appeal even stronger. Where they can be grown in the garden they are indispensable. They are easy forcers in pots and equally valuable for the window garden.

**Culture.** They are hardy only in the warmer sections of the south. Plant outdoors early before November if possible. Plant our large bulbs 2" or 3" apart and 3" deep in the garden.

**Freesia Tecolote Hybrids.** Flowers of immense size, wide open and delightfully fragrant. Plants of unusual strength and vigor. Tall strong stems. Much finer than the standard commercial varieties. We offer them in mixture only. 75c doz. 50 for \$3.50. 100 for \$6.25.

## GLADIOLUS

**How to Grow Gladiolus.** Glads planted Jan. 1 to Mar. 1 in Southern California and thruout the south (a little later in Northern California and early as possible in spring in the East) are reasonably sure to escape the attack of thrips.

**Thrips** are very small insects that suck the juices from the plant. They cause the flowers to wither or appear burned, and appear only after weather becomes warm. To avoid the damage thrips do, four measures are effective. Plant early. Plant clean, treated bulbs. Keep them reasonably moist and well cultivated, with no weeds. Dust with Chlordane. A hand duster and Chlordane can be bought from most local feed or seed stores. Chlordane tho toxic is safe to use but do not use on vegetables. Be careful not to breathe much of the dust. It also kills ants, cut worms, wire worms, etc.

Dust Gladiolus 3 or 4 times before flowering. Begin when plants are 6" or 8" tall.

If you cannot get it locally we can supply 1 lb. package for \$1.00, postpaid. If in an express shipment price 60c. This Chlordane Kil Dust 5 kills nearly all pests.

Many will prefer to spray instead of dusting. For spray use "Thripocide" which we list under "Garden Supplies," 4 oz. for \$1.20 postpaid.

Plant large bulbs (really "corms") 4" to 5" deep. Half inch bulbs, 3". Bulblets 2". Twice their diameter apart. Rows 20" apart, in full sun exposure. Best soil is sandy loam but they do very well in heavy soils, especially if leaf mould and compost is added. Alkaline soils do not produce good Gladiolus. Correct them by addition of peat or leaf mould. Use only well decayed manure, if any. Spoonit is an excellent mildly acid fertilizer.

**New All American Glads.** Every garden should have these new Glads as well as the older varieties. We have two new 1959 introductions for this fall. These All American Glads will be available Dec. 1. These are all patented or have patents pending.

**Sparkler.** 1959. Yellow with red throat.

**Joyous.** 1959. Bright ruffled rose.

**Emperor.** 1958. Royal Purple with cream throat. Robust grower.

**Maytime.** Stunning pink with white throat. Ruffled, very tall.

**Caribbean.** Delicate blue with cream and white throat.

**Royal Stewart.** A he-man red, straight with 8-10 open at once.

**Appleblossom.** White with rose-pink edges. A real beauty. Easy grower.

**New Prices.** 35c ea. 3 for \$1.00. 12 bulbs \$3.45. One each of above for \$2.20.

Our bulbs are grown in rich heavy soil. They are not always as nice looking as bulbs grown in thinner sandy soil. They often perform better and we guarantee them to grow well. They are priced lower than usual prices. We believe we have enough of all but it's wise to name substitutes. All are good blooming size. Available about Nov. 15.

**Capeheart.** Early salmon rose pink. 6c ea. 60c doz. \$3.75/100.

**H. B. Pitts.** Very fine large orange pink. 7c ea. 70c doz.

**June Bells.** Earliest white. Tall, with large very beautiful ruffled fls. 8c ea. 70c doz.

**Los Angeles.** Small grenadine pink flowers. 7c ea. 70c doz.

**Mauve.** Our recent introduction of this unusual color. 7c ea. 70c doz.

**Red Charm.** Pure med. dark red. Opens 8 to 9 at one time. 6c ea. 60c doz.

**Snow Princess.** Early, pure white. 7c ea. 70c doz.

**Spic and Span.** Tall, ruffled deep pink. Up to 10 open. 8c ea. 80c doz.

**Assorted varieties.** No. 1 to Jumbo, \$1.00/doz. \$7.50/100, postpaid, or \$6.00 express collect. Good flowering size, 50c doz. \$3.50/100.

**Miniature Gladiolus.** Like a miniature carving, a cameo or fine lace, they are dainty, beautiful and alluring. Fine for cut flowers. All are good blooming size bulbs. **Assorted Colors,** \$1.00 doz.

**Tristis concolor.** Evening Flower. The fragrant glad. Sweet, spicy fragrance in the evening. Creamy white. 15 to 18 inches tall with three to five flowers on each stem. Where climate permits they should be left undisturbed for several years. To be effective they should be planted in clumps. 3 for 65c. \$2.00 per doz.

**Neomarica** or Walking Iris are tropical and are favorite house plants for their unusual habit of growth.

**Neomarica gracilis.** Smallest and earliest. Use 5" pot. 75c.

**N. Northiana.** Larger plant and flowers, slow propagator. Use 6" pot. \$1.75.

**N. hybrids.** We crossed the above species and raised plants with flowers as large as *Northiana*, as profuse as *gracilis* and plants midway in size. They are rapid multipliers. \$1.75. All 3 kinds for \$3.75.

**Moraea polystachia.** 2 ft. stems produce a multitude of iris-like flowers, violet with mauve and yellow in throat. A bed is a stunning sight. They increase rapidly by selfsown seed. Hardy in south and middle south to Tenn. In the north grow in a 5" pot, sandy soil with leaf mould, full sun. 15c and 25c ea. \$1.00 and \$2.00 doz.

**Culture Suggestions.** *Moraea* to *Tritonias*. These are all most desirable items for Southern Gardens. All are hardy to about 24° to 26°. All need full sun exposure, prefer sandy or light soil and should be planted about 2" apart in garden or pots and 2" or 3" deep. All are winter bloomers and as house plants must have cool rooms. Height of plants is stated in inches, thus 20".

**Sparaxis.** Richly colored fls., on plants about the size of *Freesias*. Mostly red shades. No perfume. Easier to flower in pots than *Freesias* and hardier outside in south. Large. 3/15c. 50c doz.

## LILY FAMILY — Liliaceae

The type species is *Lilium*, or true Lily. Many call *Crinum*s, *Callas*, *Cannas*, or any bulbs "Lilies," but this is an error.

**Lilium.** This genus includes all true lilies, altho *Gloriosas* are so close that the flowers are similar in form. **Culture.** Plant 4" to 6" deep (deeper probably in north) in mildly acid humus—leaf mould, peat. Planted among low shrubs, where tops may reach up into the sunlight, with their feet cool and their heads warm, they are ideally situated. They do well in the half shade of trees or a lath house. All can be grown in pots, but after flowering must be shifted to garden.

**Lilium auratum.** Gold Band Lily. This exotic flower is a native of the Orient. Considered the world's most beautiful lily. Richly fragrant. \$1.00 ea. 3/\$2.75.

**L. Regale.** One of the hardiest and best garden Lilies. 75c ea. 3/\$2.00.

**L. speciosum Magnificum (Rubrum).** White flushed and spotted with deep rose producing a bloom essentially carmine-pink. \$1.00 ea. 3/\$2.75.

All three value \$2.75 for \$2.45. Three each value \$7.50 for \$7.35.

**Brodiaea uniflora.** Lovely porcelain blue flowers on a low plant. Usually grown in pots in north but a customer reported them hardy in Ohio. 6 bulbs in a 4" pot will go well with *Oxalis* in your kitchen window garden. Must have a cool room. Outside in southern gardens. 3/15c. 50c doz.

**Muscari, Grape Hyacinths,** blue. Close relative of *Hyacinths*. Racemes of exquisite blue bells, closely packed. Grow them in pots or garden. Culture same as *hyacinths* but plant closer and not as deep. Even small ones will flower in pots but larger ones better.

**M. Heavenly Blue, Sky Blue, or Early Giant.** Extra blue. Excellent for forcing. 2 for 15c. 50c doz.

**Roman Hyacinths.** Have single flowers, a less dense raceme than the Dutch *Hyacinths* but they have equal fragrance and great beauty, in the garden or in pots. **Culture.** Plant 3" to 4" deep in rich sandy loam containing much humus. **White, Pink and Blue.** 3 for \$1.00. \$2.50/doz.

**Scillas** are closely related to *Hyacinths*. All are hardy except *S. peruviana* and it has been grown in gardens in Brooklyn on L.I.

**Scilla peruviana** is an ideal bulb for pots or garden. It is hardy to N. Car. and in Long Island. As a house plant it does well in cool but sunny rooms. Give full sun out-

doors. Winter bloomer. The short foliage is nice and flower head is oval and on a short stem. Blue fls. Sometimes a White. Blooming size, 50c. 3/\$1.25. Special \$4.50/doz.

**S. hyacinthoides.** One of the finest bulbs for the outside garden as it is perfectly winter hardy in north. It has a densely flowered raceme often 3 ft. or more in height. Ideal for the perennial border just the blue you want. Plant in full sun. If early planted in the south it will flower in late winter to spring. In the north about mid-summer. Flowers are very useful for cutting. The bulb is extremely hardy and a strong grower. Take my advice, plant it. 25c ea. \$2.35/doz.

## OXALIS FAMILY — Oxalidaceae

There are three types, Winter growing, Summer growing and Evergreen. The following are winter growing and blooming or evergreen. Oxalis are the brightest and most vivid of winter flowers for a sunny window or in outside beds in the deep south, where temperatures do not go much below about 26°. They give a profusion of bloom over several months time. They need a cool room.

**Culture.** Plant about 2" deep, 3" apart. Large bulbs may be farther apart and a little deeper. In pots, the smaller may go 6 in a 5" pot. They need full sun exposure and do best in a very sandy soil, rich or poor. Flowers close at night and on dark days. Tuberous rooted species start very slowly. Keep them moist and be patient.

**Oxalis acetosella.** True Irish shamrock brought to America by Irish Nuns. White with purple veins. Low, early blooming plants. Wear a leaf on St. Patrick's Day if you have Irish in your ancestry. 40c or 3 for \$1.00.

**O. Bowiei.** A large plant with bright rose red flowers. 3 bulbs to a 5" pot 5c ea. 50c/doz. \$3.75/100. Largest size 10c ea.

**O. cernua. Bermuda Buttercup.** Deep golden yellow flowers. Very profuse. 5c ea. 50c/doz. \$2.50/100. Extra jumbo bulbs 10c, 3 for 25c, 85c/doz.

**O. crassipes.** Flowers bright rose. Evergreen and everblooming increases by tubers and can be moved at any time. Plant at once. Large tubers 15c ea. \$1.00/doz.

**O. crassipes alba.** A pure white form. Very pretty. 25c ea. 6/\$1.00.

**O. Grand Duchess.** Low growing plants, but give a profusion of very large flowers in two colors. **Lavender** and **White**, 5c ea. 50c/doz. \$3.50/100. Largest size 10c each. Botanically, this is probably *O. variabilis*.

**O. hirta.** This rare and unusual oxalis makes a semi-erect leafy stem about 8" long. The violet flowers are borne in the axils of the leaves. 2/25c. 12/\$1.00.

**Oxalis Special.** The bulbs offered in this lot are assorted in size and color. They will all flower well. Some are accidentally mixed, others are surplus. Price, 30 for \$1.00.

## THE CALLA LILY FAMILY — Araceae

This family contains the so-called Calla Lilies or Zantedeschia, Black Callas and other Aroids.

**Culture.** All Zantedeschias, Arum palaestinum and other aroids listed here are desirable for pot culture. *A. palaestinum* will start about Sept. or later. Do not put this bulb into moist soil before that or it will rot. Zantedeschias—pink and yellow—may be potted by about Dec. 15. Don't rush them, as too much water before they start to grow may rot them. It is really better to start in early spring, here in late February. All do well in the garden in a moist semi-shaded cool place. They are not hardy in cold climates; dig in fall. The White Calla usually blooms in California in the garden in late winter. They may be planted in early fall in pots or garden. All do best in mildly acid soils, on sandy side. For acidity add peat. Most Aroids are shade plants.

It is an error to keep large White Callas growing continuously. If rested thru summer you will be rewarded with flowers. Callas as pot plants need some sun, enough to prevent

spindly growth, plenty of light and like all plants, good ventilation. They need abundant water but good drainage.

**Zantedeschia aethiopica.** Well known **White Calla**. They can be potted anytime between Sept. 1 and Jan. 1. Even later if available. Water once when potted to settle soil. Then keep soil barely moist until growth is well started. When growing well they need plenty of water and perfect drainage, give about half shade. They are hardy outdoors down to 15° but tops may be cut down by frost at about 20°. Blooming size, 25c. Large 50c. Small offsets for foliage only, 15c.

**Z. albo-maculata.** Spotted-leaf Calla. The prettiest foliage of all and worth growing for that alone. Endures sun best. Flowers, creamy white. 50c each.

**Z. rehmanni elegans.** Light pink Calla. Easier to grow and flower than the dark pink. A few are very light, almost white when forced but darker in the garden, and always beautiful. Large bulbs, 40c. 3 for \$1.15. Delivery Nov. on all Zantedeschias.

**Z. elliotiana.** Deep Golden Yellow Calla. Like all the callas, they need some sun. If they do not have it they grow too tall and weak and may fail to flower. Half sun is usually right. Delivery Nov. 40c ea. 3 for \$1.00.

**Arum palaestinum.** **Black Calla.** **Solomon's Lily.** Foliage and flowers are shaped like Callas but flowers are black and odorless. Plant 4" deep in garden, not so deep in a pot. Begin to water about Sept. 1. Flowers in Feb. Large for 50c and \$1.00 ea.

**Heliconia muscivora.** Twist arum. A curiosity. Blow flies like its "fragrance." The flower spathe is contracted in the middle and bends at a right angle and opens in an 8" or wider flower. Pale purple, covered by long white hairs, the tube spotted. Summer flowering. Hardy in deep south. We have very few tubers and must price all sizes at \$2.50.

**Anthurium andraeanum.** The cordate leaves make them useful as foliage plants alone but a mature plant will flower six times a year. Flowers are calla-like, but rather flat, in glossy red, pink, orange, coral, rose and rarely white. They are much used for cut flowers in arrangements and corsages. They are everblooming if given correct conditions at all times, but sometimes take a vacation when very hot, very cold or very dry.

**Culture.** Anthuriums and Spathiphyllums are tender tropical plants, suitable only for pot culture. **Soil formula.** They will grow in most any organic compost. We use and advise one part old osmundine (discarded from orchid pots, new will do); one part peat. Add enough Sponge Rok or coarse sand to make compost very gritty and to hasten quick drainage. See Potting Directions under General Culture. Add a thin layer of sphagnum on surface to prevent eroding the surface when watering. Set plant low in an oversized pot and as it grows, new roots are formed on compost surface which should be covered with more sphagnum. When compost surface reaches rim of pot, shift to larger pot, or build up with sphagnum. New roots must be kept covered.

Use Spoonit or liquid manure once a month, after plants are well established. The preferred minimum night temp. is 60° or over. 45° does little harm other than to stop growth and flowering. 70° to 80° is a good daytime temp. Air should be very humid. Spraying foliage daily increases air humidity. They should never become completely dry, thruout. Water about every two days.

**Special price.** Small plants for \$2.50.

**A. scherzerianum.** This species is easy to grow as a house plant as it is less demanding about temperature, etc. Mature, old plants may become 15" to 18" tall, but they start blooming at only 4" or 5" tall. Colors range from red, spotted red and white, to white. Blooming size, assorted colors only \$3.00. Extra large plants in flower for \$5.00.

**Fancy Leaf Caladiums** are the most gorgeous of foliage plants. Every leaf is a flower as vivid in color as a rose. We have selected for you 10 of the most beautiful, we think, this year. **Culture.** The Caladium is a tropical plant and naturally grows best in very warm temperatures, 70 degrees or more. They are heavy feeders and seem to grow best in a soil with a pH of 5.5 to 6 and with sufficient organic matter to prevent its



packing and sealing to the point of locking out air circulation. The pot soil should be loose and fluffy even after continuous and frequent watering during the growing period. A mixture of equal parts of coarse sand, peat or leaf mold, and dairy manure has been found satisfactory. Caladiums should be started in moist soil, or peat. After roots have started more water should be used. As the plant develops and the leaf area increases, more water is thrown off by the leaves and more water will be required, but the soil should never contain sufficient water to "water-log." Constant watering will tend to leach the plant food from pot soil so it will be desirable to feed the plants periodically. Use Spoonit for a good fertilizer.

Bulbs available late November and early December. Be sure to unpack as soon as received. They will not be shipped in real cold weather. Caladium bulbs must be kept in a warm place.

**Ann Greer.** A large round leaved red. Medium leaf producer. Low growing.

**Aaron.** A new variety, first leaves are tall, but later leaves come to develop a very nice pot plant.

**Edna.** Has large glossy red leaves, bordered with green.

**June Bride.** The whitest of the whites. It is low growing.

**Lee Stokes.** Uniquely colored plus good leafing qualities make it an attractive Caladium.

**Mary Queen of Scots.** A low growing leafy variety that offers another variation in color. Has pink background with red veins spotted with green, red and pink.

**Mrs. F. M. Joyner.** A very colorful new white. Red veins and border. Vigorous and tough.

**Mrs. F. Sanders.** A large leaved, vigorous variety with a different coloration. Very pretty.

**Mrs. W. E. Halderman.** Very colorful with pink to red and green. Tall grower.

**Sorocoba.** Has a suffusion of delicate pink over white. A good leafer.

**Prices.** 50c ea. or complete set of 10 for \$4.50. These are No. 1 bulbs labelled.

**Caladium Lance Leaf varieties.** These are new varieties with narrow pointed leaves. Very beautiful.

**Cinderella.** A white lance leaf with occasional green mottles and vermilion splotches. Interlaced with minute pink dots, lots of leaves. Very beautiful.

**Gloriosa.** Pink center, white midriff with moss green edgings spotted with pink. Excellent.

**Joyners Pride.** Medium wide lance type. Bright red color, narrow green border, short stems. Very good.

**Little Rascal.** Low growing heavy textured leaf. Very rich wine red color. Beautiful beyond description.

**Pink Charming.** Medium wide pearl white with pink patches lacy green border. Very good.

**Red Bird.** Medium wide upright lance. Light rosy red in color, pink tinted stems.

**Prices.** 60c each. 6 for \$3.20. **Special price** for all Caladiums listed, 16 for \$7.60.

## THE GESNERIA FAMILY — Gesneriaceae

The Gesneriads listed here are tropical or semi-tropical. They are strictly house plants outside of the tropics. Most of them are for the warm house. All are either tuberous rooted and deciduous or fibrous rooted and evergreen.

**Gloxinias.** We will have a few tubers available for fall planting, delivered before Dec. 1. Assorted at 35c each. \$1.70 for six.

**Gloxinia Seed.** We have a very good mixture of seed, 50c packet, 3 for \$1.25. Please send stamped addressed envelope for seed.

**Seed Culture.** Place fine grained vermiculite or terralite in the bottom of a plastic refrigerator dish 3" to 4" deep and moisten well. Plant seed very thinly over surface. Keep covered with lid until plants are ready to pick out. One must make sure that moisture does not escape and add water if it does. They may be picked out and transplanted into 2" pots after second pair of leaves develop. We also plant seed in 9" pans, half filled with peat and milled sphagnum. When planted cover pot ~~with~~ glass. We grow many rare seeds by either method, including African Violets. Gloxinias flower at about 5 months.

**Episcias** resemble African Violets in form and in other ways, yet are entirely distinct. African violets flower profusely. Episcias are very showy foliage plants but have brilliant, usually red, flowers, not so freely produced. They are natives of the American tropics, not African. Their flowers are solitary or clustered, not in cymes as in African Violets. The resemblance is casual, not botanical. But their red flowers and general contour of the plants have resulted in promotion of *E. fulgida* (often sold as *E. coccinea*) as a Red Violet. They are very tender tropicals and should not be colder than 60°. At about 50° they are badly damaged or killed, hence cannot be shipped when likely to encounter temperatures under 50°. They make stolens or runners like a strawberry and new plants are made in a similar manner. We plant in baskets of sphagnum and hairpin the little plants on stolens to sides and bottom of basket. Or stolens may be allowed to hang as jewelled pendants. Flowers are usually bright scarlet and foliage usually villous, or hairy and velvetlike. They may also be grown in pots, same soil as African Violets. Either way they require constant moisture. When you receive the plants do not remove or tear apart the mass of sphagnum which contains their delicate roots. Plant the entire mass.

**Episcia cupreata.** Type variety. Red flowers. Very dark bronze leaves with a slight silvery tone along midrib. \$1.00.

The following are cultivars or sports of *E. cupreata*. All have the same red flowers.

**E. Acajou.** Dark bronze with wide silvery green midrib. \$1.00.

**E. Chocolate Soldier.** Dark chocolate with narrow silver midrib. \$1.00.

**E. Emerald Queen.** Dark green with silvery green midrib. \$1.00.

**E. Frosty.** Prevailing color is the frosty green, spreading to leaf margins from the center and toward the margins are markings of dark green. \$1.00.

**E. Harlequin.** Very shiny leaves, wide green zone along midrib with very dark greenish bronze between pinnae from the midrib. \$1.00.

**E. metallica ("Kitty").** Leaves densely covered by short hairs, or villous. Very dark bronze with silvery pink center stripe in midrib. Reverse side, vinaceous purple. \$1.00.

**E. Silver Sheen.** Silvery green leaves, narrowly bordered dark green. \$1.00.

**E. Sylvan Beauty.** Green central zone with greenish bronze on outer portion. \$1.00.

**E. Splendens. (Variegata).** Silver green markings on emerald green background. This is the last of cupreata cultivars. \$1.00.

**E. cupreata, var. viridifolia.** Nile green leaves. The best bloomer of all. \$1.00.

**E. fulgida. (Coccinea, Red Flame Violet).** Medium bronze with silvery green veins. Lovely red flowers—but not a "violet." \$1.00.

**E. lilacina,** type variety (Fanny Haage). Large lilac flowers. Broad green center on greenish bronze background. \$1.00 each.

**Special.** We can now offer the rare **Episcia dianthiflora**. This is a vigorous grower with small green leaves and white flowers with fringed petals in spring and summer. \$1.50. 13 var.; our selection for \$10.00.

**Columnneas.** Are epiphytic climbing vines, having large, vivid red flowers. They may be grown in pots, soil similar to that of other Gesneriads but we prefer to grow in wire baskets of pure sphagnum or with the center of sand and peat, equal parts.

**Columnnea gloriosa.** The most profuse bloomer. **C. Schiedeana**, very large, thick stems. **C. microphylla**. **C. Banksii**. **C. Allenii**. **Araguda**. \$1.25 new low price. One of each for \$7.00.

**Aeschynanthus** (Trichosporum). This is a nice trailing, almost woody vine. In nature, they are epiphytal and climb trees. The plants are attractive and the freely produced large flowers are tubular and vividly colored.

They are tender tropicals and shipment will be made only when weather permits. We grow them in wire baskets, lined thickly with sphagnum and with peat and sand in center. They do well in pots. They require constant moisture. Leaves and flowers drop when dry.

**Aeschynanthus lobbiana** has scarlet fls. in a purple calyx. \$1.25 postpaid.

**Reichsteineria cardinalis**. Delightfully green slightly hairy, heart-shaped leaves, and long, curved flowers, borne in profusion, in the brightest of scarlets. Blooms resemble a Parrot's beak. May last longer than those of other gesneriads. Grow like Gloxinias with lots of light. 50c ea.

**Nautocalyx bullatus**. Close relative of *Episcias* and as tender. Upright grower to 1 ft. or more. Quilted leaves of dark bronze-green, maroon on underside. Same soil as for above. A very gorgeous plant. \$1.25.

## AFRICAN VIOLETS — Saintpaulias

Few would question the statement that African Violets are the most popular house plant at the present time. They fit perfectly into the modern smaller homes and rooms, where things are fixed or built in. Every convenience in a small space. They may be grown in an east, south, west or north window or even the basement if given artificial lighting and correct temperature. See under Garden Reference Books the new book, *Growing Plants Under Artificial Lights*.

They win favor because of their daintiness and beauty, their everblooming habit, their diversity in foliage, flower color and form. The introduction in 1955 of double pink varieties, for the first time have enhanced their popularity. There seems to be no limit to their possibilities in the hands of breeders, except that their color range can never include yellow or true spectrum red. The reds are always purple toned.

**Culture.** The question most often asked is, "How can I get constant bloom? My plants are healthy and grow luxuriantly. The foliage is deep rich green, beautiful plants but no flowers." The answer is, you do not give them enough light. Note the discussion under **Sun exposure**.

The advised **range of temperatures** for winter is 60° at night and 70° daytime. They might do a little better at 10° higher but that is uncomfortable for people in winter clothing and summer brings about 10° increase, in our living rooms.

The plants do not like sudden changes nor great changes. A nearly even temperature, within a limit of 12° between high and low is better. They are bound to have a greater range sometimes and if not more than about 15°, they are unlikely to lose their flowers. Loss of flowers is the first evidence of something wrong. This may result from sudden changes, drafts, too high a temperature in summer and in winter it may result if temperature goes much under 60° for more than an hour or two. Or it may result from too low relative humidity. This should be 40 to 60%.

African Violets grown at a congenial temperature are usually killed if subjected to lower than 40°. Therefore it is impossible for us to send you plants by mail in winter, to a cold climate. In favorable weather we can usually send to warmer sections of the south. Nor do we ship on very hot days in summer. We can ship leaves by air in winter but you must send extra for air mail.

**Watering.** Do not use cold water. The water should be near the room temperature and never over 10° lower or higher. Most of our watering is done by spraying with a

hose. The plants need to have the foliage sprayed and it does not spot the foliage if no sun falls on the foliage before they dry off. The interval between waterings should be long enough to permit the top soil to become slightly dry. Do not use pots that have no hole at bottom for drainage. Use sub-irrigation infrequently. We prefer regular pot watering.

**Good ventilation** is needed by all plants but Saintpaulias do not like drafts. Slow movement of air currents are more conducive to their comfort.

**Soil formulae.** Plants have a considerable tolerance and do well in a wide variety of soils. Soil should be at least mildly acid in reaction and a type that will drain easily and quickly. Heavy clay soils, therefore, are not good. We use about one half compost, one half peat with enough Sponge Rok to give good drainage.

If you are unable to supply your own soil mixture, the best we know about is Black Magic African Violet mix. Listed under "Supplies" in this catalog.

**Fertilizers.** We use only Spoonit and recommend it to be applied once a month, on a day following watering. See our listing under Garden Supplies.

**Sun exposure.** Lack of sufficient light intensity is one of the most frequent causes of non-blooming. All shade plants need a certain amount of modified sunlight to make them flower. In the winter, the sun is at a low declination. Its rays must pass thru several times the thickness of atmosphere penetrated at noon in the summer when the sun is directly above or at "high declination." Very little shading is needed on the greenhouse in winter. Treated thus, our plants bloom profusely all winter. Very likely plants in a south window, anywhere in the north temperate zone, in winter, will be sufficiently shaded on the brightest days by a thin muslin curtain. It may not even be needed at all and on days of less than maximum intensity remove the shade.

But summer sun is much stronger. One must give more shade. It should not, however, be too heavy. The color of the foliage will tell you what they can endure. When healthy plants have light, yellowish foliage they probably receive too much sun. For checking, select a plant having green foliage, under normal conditions, not a dark foliage plant like Holly or Pink Delight nor one like Frosty having ivory or white areas.

If your Saintpaulias do not flower altho they grow well and appear to be healthy, you need to check on all points we have mentioned. Light intensity and duration are important. In the far north we have customers near the Arctic Circle where there is full daylight only in summer. Here the only possibility of winter flowers is the use of artificial light. They express interest in fluorescent lighting. Mrs. Rector, in *How To Grow African Violets* (which you should have,—see our book list,) says that an 80 watt fixture, 18" above the soil, has been found to give good growth and free flowering. Any kind of light will do provided the plants receive 15 to 30 foot candles (as measured by a photographic light meter) for 12 hours duration, daily. This should be tried in the Northern states where winter days are short and dull. For the most complete information on this, send us \$3.50 for Peggy Schulz' book, "Growing Plants Under Artificial Light."

**Humidity.** The humidity of our homes is likely to be not much over 25%. One can increase the humidity around the plant sufficiently by setting the plants in saucers. These may be partly filled with small gravel. Set pots on top of gravel and pour in water until it does not quite touch pots. A saturated sponge in a shallow dish will help humidify air. If you have a greenhouse, keep the walks wet.

**Pests.** Be sure to keep your plants free of insect pests. One of the most common on house plants is the **mealy bug**. Examine plants frequently for pests. Mealy bugs look like tiny specks of cotton. Isotox M, used as a spray, is effective. Use 1 tsp. to one gallon of water. Badly infested plants should be discarded or at least removed from the vicinity of all other house plants. All effective insecticides are poisonous. You must not breathe the fumes. You must avoid skin contact. See our listing.

**Cyclamen mites** are most destructive. The center of an infected plant takes on an abnormal appearance and changes to a different color, usually grey. It becomes rough in

appearance and young foliage is misshaped. Mites spread to all the plants and effective measures must be at once applied. We have found the most effective remedy is to spray with Isotox Spray, which is listed under "Supplies." Immediately remove infected plants into quarantine. Do not handle infected plants, then healthy plants.

Orders from distant states, Hawaii, Alaska, Cuba, Europe, etc., should include enough for delivery by Air Parcel Post. We have shipped as far as Denmark, nearly 6,000 miles, this way and plants arrived in perfect condition. They did not quit blooming. We charge the customer the excess of Air Parcel Post above the cost of surface Parcel Post to our 8th Postal Zone. Please state in your order that you will pay the difference promptly if your estimate is too low. But send your estimated amount with order.

**Starting leaf cuttings.** A good many growers start cuttings in water. We believe a better way is to start in terralite, (a fine grained form of vermiculite), keep moist and in good light but no sun. Long distance shipments should go by air, the same as for plants. If leaf is wilted, soak 2 hours in water or until leaves are fresh looking.

**Sales Tax.** Californians must include 4% Sales Tax. Out of state customers sending plants as presents to a California friend must also pay it. Please read "Terms and Instructions for Ordering," and comply on all points. Orders \$3.00 or under please add 50c to help with postage and packing.

**Arctic Nite.** Beautiful vivid dark blue double. \$1.25.

**Alaskan Waters.** Double blue, supreme foliage. Small \$1.25.

**Annabelle.** Light blue double flowers. Foliage beautiful red back. Sm. \$1.00.

**Aztec.** Light orchid double. Very free flowering. \$1.50. Sm. \$1.00.

**Autumn Frost.** Frilled wine Geneva blossom, good girl foliage. \$1.25.

**Bernice.** Double. Light blue flowers. Soft medium green leaves. \$1.50. Sm. \$1.00.

**Black Cherry.** Huge dark wine, double. \$1.50. Sm. \$1.00.

**Blue Electra.** Immense light blue dbl. standard foliage. \$1.50. Sm. \$1.00.

**Blue Mantle.** Clear medium blue bouquet of nicely formed fls. \$1.00.

**Blue Nocturne.** Large light wavy blue double on strong medium green wavy foliage. Sm. \$1.00.

**Blue Peak.** Double blue flowers edged white. Geneva type. \$1.25.

**Bud's Kimberly.** Large dark hairy wavy leaves. Electric blue dbl. white edge. Small \$1.00.

**Bud's Pink Waltz.** Dark quilted lvs. Deep pink double. \$1.50. Sm. \$1.00.

**Bud's Strike Me Pink.** Very good double pink with girl foliage. \$1.50.

**Cara Mia.** Outstanding double blue and white. Supreme foliage. \$1.25. Small.

**Cathy Reed.** Lovely deep pink single. \$1.50. Sm. \$1.00.

**Chartreuse Lace.** White frilly blooms with delicate Chartreuse edge. Bright green wavy foliage. \$1.25 small.

**Clarissa Harris.** Olive green, red back fringed lvs. Heavily fringed deep pink. \$1.50. Top winner at the convention.

**Cup of Claret.** Girl foliage with large single claret red fl. \$1.50. Sm. \$1.00.

**Dark Eyed Dream.** Lovely soft blue flowers with darker eye. Wavy lvs. \$1.50. \$1.00.

**Dixie Moonbeam.** Lavender and white blend fls. Standard foliage. \$1.50.

**Double Inspiration.** Very beautiful double lavender flowers. \$1.50.

**Double Midnight.** Very large red double. \$1.50. Sm. \$1.00.

**Double Peach Blossom.** Dark quilted leaves. Peach-blossom double. Sm. \$1.25.

**Double Pink Cheer.** Deep pink. \$1.50.

**Double Red Comet.** Wine red. Dark quilted leaves. \$1.50. Sm. \$1.00.

**Double Uncle Bob.** A very good pink double. \$1.50.

- Double Violet.** Violet shade, large double flowers. Sm. \$1.00.
- Dresden Dream.** Dark ruffled leaves. Heavily fringed single pink with green edge. \$1.50. Sm. \$1.00.
- Drops o' Wine.** Deep wine, almost black. \$1.50.
- Easter Dream.** Frilled mauve single with white edge. Dark leaves. \$1.50. Sm. \$1.00.
- Evelyn Johnson.** Lovely large double pink on waxen girl foliage. \$1.25.
- Fantasia.** Lavender flowers with dots and dashes of dark violet. \$1.50.
- Fire Dance.** Very deep velvety red. \$1.00.
- Geneva Nueva.** One of the best Geneva type fl. Purple with white edge. \$1.50.
- Hermosa.** Large dark pink flowers. Much admired at shows. \$1.50.
- June Bride.** Light green girl foliage with lovely frilled white fl. \$1.25.
- Lavida.** Dbl. orchid with lighter edge. Beautiful. Sm. \$1.00.
- Lorna Doone.** Deep wine bicolor fringed fl. Dark wavy leaves. \$1.25.
- Mary Thompson.** Frilled lavender double; wavy foliage. \$1.50.
- Matchmate.** New. Light blue Geneva double, dark foliage. Small \$1.00.
- Minnetonka.** Dbl. blue and white. \$1.25.
- Miss Monroe.** Large red double flowers on girl foliage. \$1.25.
- Mr. Chicago.** Semidouble blue with touch of white on edges of fls. \$1.50.
- Ohio Skies.** New. Large light blue flowers well above plant. Supreme foliage. \$1.00 small.
- Perky Pink.** Lovely double pink, dark fls. Sm. \$1.00.
- Pink Joy.** Lovely large pink flowers, standard foliage. \$1.50.
- Pink Miracle.** Large pink fls. with deep pink slightly ruffled edge, \$1.50. \$1.00.
- Pink Petticoats.** Fringed deep pink single. Dark bronzy leaves red backs. \$1.50. Sm. \$1.00.
- Pink Puff.** Lovely double pink, very large flowers. Quilted leaves. \$1.50. Sm. \$1.00.
- Pink Victoria.** Very good double pink. \$1.50. Sm. \$1.00.
- Pink Waverly.** Dark pink fringed flowers. Dark wavy foliage. \$1.25. Sm. \$1.00.
- Popcorn.** Double white. Girl foliage. \$1.00.
- Red Mahogany.** A very good flowering variety. Single fl. \$1.25.
- Rose Wing.** Large white (ruffled lvs.) shaded with rose orchid. Supreme lvs. \$1.50.
- Ruffled Geneva.** Bronze ruffled leaves. Blue with white edge ruffled fls. \$1.25.
- Sea Sprite.** Double white with lilac fringe fls. Quilted leaves. \$1.25.
- Show Day.** Extra large white with blue overlay, darker center. \$1.50. Sm. \$1.00.
- Snow Ball.** Very nice free flowering double white with quilted leaves. \$1.50. Sm. \$1.00.
- Spider.** Long narrow medium green leaves. Small medium blue fls. \$1.00.
- Star Blue.** Star shaped flower. Small \$1.25. We have a number of the new Star plants but in too small a quantity to list separately.
- Stephanie.** Creamy pink, heavily fringed. \$1.50. Sm. \$1.00.
- Sunbonnet Sue.** Deep orchid and wine single with white edge. Bronze Girl lvs. \$1.25.
- Thunderhead.** World's largest single white on improved dark green foliage. Sm. \$1.25.
- T-V Play Boy.** Very good large single pink, not frilled. \$1.50. Sm. \$1.00.
- T-V Scandal.** Blue with white edge frilled flowers. Lvs. rippled. \$1.50.
- T-V Swirling Petticoats.** Deep purple single. Lvs. very pretty. \$1.50. Sm. \$1.00.
- T-V Vallen Pink.** Deepest pure pink single, frilled edging. Lovely. \$1.50.



**T-V Whispers.** Double white with blue shading. Light wavy green leaves. \$1.50.

**White Goddess.** Lovely pure white, cupped, blooms with heavy frill, on dark green girl foliage. \$1.50. Sm. \$1.00.

**White Pride Supreme.** Largest double white. Supreme foliage. Top winner at convention. \$2.00. Sm. \$1.00.

**Beginners collection.** Our selection. 2 for \$1.75. 3 for \$2.50. 4/\$3.25. 5/\$4.00.

**Miniatures.** Our selection \$1.00 ea. Leaves 50c ea. \$5/12. Baby Fingers, Blazing Girl, Bashful, Bronze Elf, Chartreuse, Cherie, Cinderella, Cutie, Dolly Dimples, Bubonnet, Dusty Queen, Easter Bunny, Elf Toes, Flamingo Girl, Glorencita, Gay Senorita, Geneva Girl, Gremlin, Grumpy, Heidi, Irresistible Girl, Jessie Cutup, Morning Glory, Minneapolis, Mulberry Curls, Mu Lau, Pink Queen, Pixie, Princess Pat, Red or Blue Albino Girl, Show Glow, Shine Boy, Star Tips, Temple Satin, Thumbelina, Ting O' Ling, Tiny Bells, Violette Elf, Zoella.

**Leaves,** 50c ea. \$5.00 per doz. If you want them by air mail please send 75c for postage and packing. If special delivery add 45c. Please give a few substitutes, if you do not, we will substitute with as good or better varieties if necessary. Dbl means double, b blue, p pink, w white. Many new varieties in this list.

Angel Lace	Faire, dbl p	Pink Spray, p and w
Autumn Frost	Fascination, dbl p	Raspberry Pink
Big Parade	Fineline, dbl	Redderness
Black Cherry, dbl	Fire Dance, r	Rose Wing
Blue Electra, b	Frilly Fluff	Royal Bo-Kay
Blue Largo, dbl	Gay Spring	Sheer Delite
Bonnie Foi	Graceful	Sheila
Bud's Pink Cupid, dbl	Hermosa, dbl p	Show Day
Bud's Pink Waltz Supreme	High Noon	Show Stopper
Cara Mia, dbl	Invader, dbl p	Silver Field
Caliph, dbl r	Lady Elaine	Snow Ball, dbl w
Cathy Reed, p	Little Jewel	Showyn Princess
Charmine	Lilac Dale, dbl l	Span
Chartreuse Lace, w	Longifolia Double Blue	Spanish Lace
Christmas Rose, dbl w	Longifolia Double Pink	Spring Drift
Clarissa Harris, dbl p	Love Song, b	Star Blue
Cloud Fringe, dbl	Mamselle, dbl p	Star Celestial
Corrine, dbl w	Mary Thompson, dbl l	Star Hi-Pink
Cydonia, dbl b	Mark Roberts	Star Perfection
Dark Eyed Dream, b	Matchmate, dbl	Star Pink, New
Desert Rose	Midnight Queen	Star White
Dixie Moonbeam	Miss Cathy	Stephanie, p
Double Inspiration Supreme	Miss Monroe, dbl r	Student Prince, dbl
Double One	Miss New York, dbl	Sunbonnet Sue
Double Peach Blossom	My Choice	Sunday Pink
Double Pink Holiday	My Hope, dbl b	Swanky
Double Pink Hoosier	Mr. Chicago, dbl	T-V Beaumont Beauty
Double Midnight, r	Northern Breeze	T-V Jubilee
Double Raspberry	Ohio Skies, b	T-V Play Boy
Double Red Comet	Pacific Moon, w	T-V Scandal
Double Uncle Bob, p	Perky Pink, dbl	T-V Swirling Petticoats
Dresden Dream, p	Pink Cloud, dbl	T-V Vallen Pink
Drops o' Wine, dbl	Pink Champagne	T-V Whispers, dbl
Easter Dream	Pink Fog	White Gold
Ember Pink Supreme	Pink Miracle	White Goddess
Falstaff, dbl	Pink Puff, dbl	White Pride Supreme, dbl

**African Violet Leaves** 35c ea. 3 for \$1.00. \$3.00/doz. Any over 12, 25c ea. 25/\$5.00. We give extras depending on size of order. We will be glad to make selections for you if you will give us price range, color, single or double.

Africa	Double Polar Ice	Orchid Geneva
All Aglow	Double Sea Shell	Orchid Velvet
Air Waves, dbl w	Dream Girl, b	Pacific Prince
Alaskan Waters, dbl b	Dupont Lavender Pink	Pacific Shadows, b
Angel's Blush, p	Dupont Lavender Girl	Pandora
Annabelle, dbl b	Edith Cavelle	Pansy Beauty
Appealing	Elizabeth the Queen	Pink Caress
April, b	Evelyn Johnson, dbl p	Pink Cushion, dbl
Attraction	Edith Moorhead	Pink Ideal, dbl
Autumn, dbl b	Fairy Queen	Pink Melody
Bavaria	Fantasy Double Ann	Pink Petticoats, dbl
Bernice, dbl b	Fantasy Edge	Pink Spice
Black Fringe, b	Flamingo, dbl p	Pink Waverly
Black Magic, dbl b	Finlandia	Pot o' Gold
Blue Cluster, dbl b	Floradora	Prima Donna
Blue Halo	Frisolleta, dbl r	Popcorn, dbl w
Blue Lady	Gaucht	Queen's Cushion, dbl
Blue Mantle, dbl	Georgia Peach	Red Mahogany
Blue Peak, dbl	Geneva Beauty	Rose Glow
Blue Pink, dbl	Giant Purple Monarch	Roseanna Blue
Blue Reflection	Glamour Boy	Ruffled Geneva
Blue Tiara	Grace Pope	Ruffled Queen
Bon Bon	Grand Champion, dbl p	Sailor's Delight
Bud's Pink Mermaid, dbl	Hio Loa Light Blue	Sherry Girl
Carmen	Lacy Lavender, dbl	Show Queen
Caracol	Lady Orchid	Springtime
Celery	Lavida, dbl	Sugar Babe
Christiana	Lorna Doone, dbl r	Sweet Sixteen
Challenge, dbl	Mamselle, dbl p	Texas Fringe
Cherkerberry, p	Mayfair, dbl	The Bride
Clementine, w	Minnetonka, dbl	T-V Bubbles
Crusade, dbl	Miss Ruffles	T-V Flirty Eyes
Daisy Mac	Multiflora Ice Blue, dbl	T-V Patio Dance, dbl b
Delight, dbl b	Multiflora Lavender, dbl	T-V Rose Prom
Detroit Girl, b	Navy Bouquet, dbl b	T-V Summer Dream, dbl
Dixie Fairy, dbl p	Nightingale	Velvet Queen
Double Fantasy	Nonnie, dbl r	Wayzata
Double Garnet	Northern Lights	White Madonna, dbl
Double Inspiration	Ocean Waves	White Pride, dbl
Double Pink Camellia	Ohio Bountiful, dbl p	White Orchid

## BEGONIA FAMILY—Begoniaceae

We list the Tuberous Begonias in our spring catalog but this is the first time we have listed the Semperflorens and Rex. The lovely double semperflorens are very popular at our greenhouse. We have three pinks with dark foliage so unless you tell us not to substitute we will send the best we have at the time of sending. For orders under \$3.00 please add 50c for postage and packing.

**Begonia semperflorens.** Carmen Queen, Pink Camellia, or Carlton Pink. \$1.00 ea.

**B. Christmas Candle.** Double red. Light green leaves. \$1.00.

**B. Rex, Sue Zug.** Beautiful red leaf, \$1.25.

**B. assorted varieties.** We have a good many at \$1.00 each. 3/\$2.75. 5/\$4.50.

## THE ORCHID FAMILY — Orchidaceae

The ideal place for an amateur to grow orchids is in a hobby greenhouse, but in parts of Fla. or similar climates and So. Calif. one can grow **Cymbidiums** in a lath house in half shade. Temperatures should not go much, if any, below 28°. In case of a bad cold spell cover the plants with leaves, newspapers or cartons. By this method, we once saved our Cymbidiums when we had a temperature down to 20°. They grow well in a mixture of loam, peat, leaf mould and coarse sand, equal parts.

The hardier types of Cypripediums, such as Cyp. insigne are injured very little if any by temperatures near freezing but for growth and flowers keep them above 40°. Those with mottled foliage such as Cyp. callosum, (more properly Paphiopedilum callosum) are tropical and grow at about the same temperature range as Cattleyas. In their habitat in tropical Asia they probably grow in soil but the best potting medium is osmunda and sphagnum, equal parts. They should never be allowed to become dry. They should be shaded slightly more than cattleyas.

The amateur needs references in order to learn the proper conditions and culture methods. We still have a supply of our 1949 Price List which gives brief but usually sufficient directions for many species including Cattleyas. The listings and prices in this 6 page pamphlet are cancelled. Order plants only from this catalog. New price is 25c. None are given free with orders.

Our recently revised 12 page booklet How to Grow Orchids is now 75c per copy, postpaid. Add 3c sales tax in California.

**Culture of Cattleyas.** By far the most desirable of orchids. Many amateurs are having success in growing and flowering this most beautiful flower. When ordering, if not before be sure to order the "1949 Orchid Price List." Briefly you must have a greenhouse, a room or a glassed in porch where the plants will have good, strong light but no direct sun, unless a little in very early A.M. or late P.M. Greenhouse glass must be shaded by a coat of white wash or shading compound. In the home, shading may be had by using muslin curtains. If the foliage becomes very light green or yellowish the light is too strong; if a deep rich green, the shade is too much. 65° to 80° is close to the best temperature range. Note the temperature, light exposure and humidity favorable to African Violets. The same is about right for Cattleyas. You can grow them side by side. But watering is different.

We spray the foliage of Cattleyas at least once a day in summer and if hot often twice. This cools them. Do this about noon, earlier if temperature becomes too high. Do not spray in late P.M. as foliage should become dry before night. When cool weather arrives we spray less often, much less often in winter. Once or twice a week may be enough or even too much if you do not properly heat for their comfort. A little water held around the base of a bud spathe may cause it to blacken and rot off. Much water on the roots or surfaces of osmunda will rot the roots. Over watering Cattleyas is the most common error. We do not usually pot water oftener than once a week and often spraying is enough if some falls on the osmunda. You must study your plants and note their reactions. Success will reward you.

Customers who have bought Cattleyas from us may consult us about their plants if trouble occurs. All of our plants have been recently repotted by a professional and in best grade osmunda. We do not like the fir bark material.

**Cattleyas.** We offer blooming size plants in good osmunda fiber for \$5.00. These are in 4" or 5" pots. They are fine species like C. trianae, and a few strays.

**White Cattleyas** are not common. The following are mostly June flowering, for brides but do not pin us down on this as cultural conditions may result in a wide variation in flowering date. **C. Edithiae**, purest white \$8.50. Our selection of other whites, \$6.50.

Potted Cattleyas can only be shipped by Express f.o.b.

**Cymbidiums.** Assorted only this fall at \$1.50 each. 5 for \$6.50.

**Bletilla hyacintha.** Lovely hardy, terrestrial orchid. Plant before Mar. 1. The best soil contains much sand and peat. 8 to 12 lovely little purple orchids on a scape 15" tall. Price 40c. 3 for \$1.00. \$3.50/doz. postpaid. \$25.00/100 by express, f.o.b.

**Brassovola Digbyana.** Plant resembles a *Laelia*. The white flowers have a fringed lip and are used to cross with *Cattleyas* in order to get fringed lips. We grow in baskets of *Sphagnum* but others grow in osmundine in pots like *Cattleyas*. This species is hard to get. Price \$10.00, in 8" wire basket, f.o.b. express.

**Habenaria radiata. The Egret Flower.** (At last! An orchid anyone can grow anywhere.) A deciduous terrestrial orchid from the orient that grows from small bulbs about the size of a bean. The glistening pure white flowers are held on stems twelve to fifteen inches high. Each stem carries two to five flowers one to two inches in diameter. The long green spurs add much to the attractiveness of the flowers. The feature of the flower is the fringed edges of the lip which gives the flower the appearance of a crane in flight. The individual flowers are long lasting and very pretty.

The plant is extremely hardy and will survive sub-zero weather, but will grow equally well in our southern climates or in a glass house. Packed moist, the bulbs will keep for many months in a refrigerator, and may be planted monthly in order to have flowers nearly all the year. It may be planted in almost any medium, such as garden soil, peat and sand mixture, orchid mixtures, sphagnum moss or leaf mould. If in moss it must be fed regularly, otherwise treat it like any other plant in your garden or house. The one most important cultural point is never to let it go dry. It must be kept moist at all times. We recommend six bulbs to a four inch pot. Order now but they will be delivered after December 1. A nice gift for a Christmas present. 6 for \$1.50. 12 for \$2.50.

**Epidendrum o'brienanum.** This orchid has a large terminal cluster of brilliant red flowers, each in the typical orchid form. The flowers open 10 or more at once and are about 1¼" wide. The plant makes a large cluster of tall stems, 3 ft. or more. Under good culture they flower all the time. They will grow well in full sun exposure; and abundance of water in summer. They grow easily in the garden in the south. In the north they are easy in pots or baskets. Small rooted plants 75c ea.

**Laelias** look very much like small *Cattleyas*. We grow them in 8" to 10" baskets of sphagnum. We can supply a few varieties for \$7.50 ea. f.o.b. express. **Laelia anceps** are \$7.50 up to \$12.50.

**Laelia tenebrosa**, fine bronze x L. S. J. Bracey, var. High Noon. This is a very colorful variety with tones of purple and red. Only nine baskets are available. These have been recently transplanted from pots to 8" wire baskets. Special price, \$10.00 each. f.o.b. express.

## THE PINEAPPLE FAMILY — Bromeliaceae

Bromeliads include *Billbergia*, *Aregelia*, *Aechmea*, and many other genera.

*Billbergias* are most unusual and fascinating plants. Not only are the flowers in intriguing pastel shades but the floral display is made brilliant by the large vividly colored bracts that cover the scape. The leaves form a rosette and are more or less rigid. Some have brightly colored leaves and others are often mottled, striped or barred. All are desirable foliage plants.

**How to Grow Billbergias.** All are tropical, or semitropical epiphytes and thus are hardy in outdoor gardens only in the deep south. But they are all easy to grow in pots and add distinction as well as beauty to the window garden.

In pots, they should have a soil of ¼ sand or sandy loam and ¾ peat, or leaf mould. There should be plenty of drainage material in the pot as poor drainage may soon destroy them. Do not overwater when first planted or in winter when semi-dormant. Nor should they become dry enough to shrivel the foliage. In hot weather when they are growing well water liberally. Keep a drink of water in their cups in the center.

In the outdoor garden they should have the same soil as recommended for pots. A few, like "nutans," will grow in nearly any soil but will do much better in the type recommended. They do well on the trunks of Palms.

They need about half shade. Too much sun will burn and finally destroy the foliage. Those species and varieties having highly colored foliage do not develop their rich colors when too deeply shaded. Most of our plants are grown in a well shaded Clivia house. When well established and growing, richer colors may be brought out by giving a little more sun than we do. **Culture** of *Aechmea* and *Aregelia* is the same.

***Aechmea angustifolia*.** \$5.00.

***A. caliculata*.** The cones of bright yellow flowers are carried on thin stiff stems 18" high. Tubular rosettes of bright green foliage are about 15" high. \$1.50.

***A. fasciata*.** The Urn Plant. Urn-shaped plant of green leaves banded white powdery substance. Very attractive in foliage, but the flower, which lasts for months, is even more so. It blooms July to August with pyramid shaped heads of pink bracts from which emerge numerous flowers colored French blue, at first turning to violet and then to deep rose. The plants we have are not of blooming size and are priced accordingly, \$7.50 each.

***A. mariae-reginae*.** Robust rosette of broad, gray-green, leathery leaves, recurved and with toothed edge; stout spike with pendant, delicate pink bract-leaves, topped by cylindrical head of red-tipped berries and violet flowers. \$7.50.

***A. ortgiesii*.** A very useful dwarf plant with rosettes of recurved serrated leaves looking more like a *Dyckia* than an *Aechmea*. The deep lavender flowers are carried on a brilliant red cone in the center of the leaves which also become red occasionally while the plant is in bloom. \$5.00.

***A. pineliana*.** Attractive, wide open rosettes of foliage toothed with dark spines, and colored soft shades of rose, copper, gray and green. The stem is covered with red bracts and topped by a small head of yellow flowers. The berries last a long time in color. \$3.00 each.

***A. tillandsioides*.** Foliage resembles *Billbergias*. 1 foot high, red bracts. Flowers yellow followed by turquoise. \$5.00.

***A. Weibachii*.** Attractive rosette of oblanceolate coppery-green leaves wine red beneath, and spined; inflorescence on panicle with glowing crimson bracts and orchid-colored ovaries and flowers. \$4.00

***Billbergia Burkholtzi*.** Tall, slender, erect green leaves. Rose bracts, lavender fls. \$2.00.

***B. distachia*.** Long, reddish green lvs., spotted cream. Rose bracts, blue and green fls. 75c.

***B. Elvenia Slosson* (*Nutans* x *Alberti*).** Tall plant with very attractive flowers in spring. It takes a lot of postage and its fine quality makes it cost \$3.00 each.

***B. nutans*.** Mid-winter, beautiful inflorescence on small plants. Fine pot plants. 75c.

***B. pyramidalis*.** Wide green lvs. Red fls. tipped violet, red bracts. \$2.00.

***B. Rubro-cyanea*.** Most colorful foliage, red and green spotted cream. Green fls. edged blue. Crimson bracts. \$1.00.

***B. speciosa*.** Green lvs., striped on back. Green fls., tipped blue. Rose bracts. \$2.00.

***B. Theodore L. Meade*.** Green lvs. and large, beautiful inflorescence, continuous all year on new growths. \$1.50.

***B. thyrsioidea*.** Forms very large, wide open rosettes of leaves. It blooms in August with a large flat head of rosy flowers held erect on a stem covered with deep rose bracts. It is commonly known as Torch *Billbergia*, and is really worth having. \$3.00.

***B. thrysiflora* (*pyramidalis* x *amoena*).** Finest hybrid. Beautiful inflorescence. \$1.50.

***B. Zebrina*.** Lvs. banded white on back. Salmon bracts, green fls. \$1.50.

***Cryptbergia Meadi*.** A bigeneric bromeliad hybrid of *Billbergia* and *Cryptanthus*. The flowers are very insignificant, but foliage is lovely, being of pinkish and bronzy tints

especially when given plenty of light. Highly recommended for the window garden. \$1.00 ea.

**Neoregelia spectabilis.** Called "Fingernail plant" because of the red tips of the metallic olive green leaves; gray crossbands beneath; blue flowers in low cushion. \$3.50.

**Big 4 collection.** Nutans, Distachia, Rubro-cyanea and Zebrina. Value \$3.50. Price \$3.25. We will send larger plants if you order them to come by express, f.o.b.

**Sansevieria Golden Hahni.** Just like Hahni in size and form but golden yellow in color with some green variegations. New and scarce. \$4.00 ea.

**Tillandsia ionantha.** A miniature plant of xerophytic habit. It is strictly an air plant and does not have to be planted except for convenience. In nature it grows on tree bark, rock or telegraph wire. The best method of handling is to plant in a very small pot of osmunda and set in full sunlight. Water the leaves occasionally. The two inch rough leaves are crowded together urn-shaped. When in flower the leaves turn red. The flowers are very large for the size of the plant, tubular in form and purple in color with yellow anthers at the tip. This is one of the finest plants we know of for a small sunny window garden. \$1.50 ea.

**Tillandsia lindeni.** Gracefully curved pointed leaves with maroon lines deepening towards the base. The flattened ten inch flower spike is light pink with large blue flowers emerging alternately from the sides. Very long lasting. Some consider this the finest of all bromeliads. \$7.50 ea.

**Quesnelia arvensis.** This is a terrestrial plant and should be grown in the ground or a sandy soil mixture with peat added, if potted. The leaves are large and spiny. The bloom is erect, a brilliant shade of pink in a large closely packed umbel. Should be grown in open sunlight. Rare. \$5.00.

**Q. liboniana.** Light green foliage that is rather stiff in form. The flowers are stunningly different, being a combination of deep orange and blackish purple. \$1.50 ea.

**Vriesia marie.** "Painted Feather," hybrid larger than carinata, light green foliage tinted pink and showy, flattened, featherlike spike with bracts salmon-rose at base, and yellow dotted brown toward apex; yellow flowers. \$7.00.

## MISCELLANEOUS

**Tecolote Ranunculus and Anemones,** large size for growing in pots or in the garden. Price, either Ranunculus or Anemones, 2 for 15c. 50c doz.

**Culture.** Hardy only in deep south. It is best to start after summer heat has gone—in mild autumn weather. Don't forget to keep them moist. Transplant to garden in deep south or to pots in north. You can start them or grow them in a cool room in the house in winter. They should have sandy soil with peat added. Heat is their enemy.

**Fittonia argyroneura.** Lovely creeping plant with shining green leaves veined white. 50c.

**F. verschaffeltii.** Larger, darker green leaves, veined carmine. 90c.

**Pilea microphylla.** Artillery Plant, because it discharges its pollen explosively. Small plant densely branched. A nice foliage pot plant for dish gardens. 50c ea.

**F. verschaffeltii, var. Pearcei,** has broader and more colorful veins. Our botanical reference is not very clear but this is different and more colorful. \$1.50.

**Ceropegia.** The following are vines having long trailing or twining stems. They may be grown in soil composed of loam, sand and leaf mould or peat, in pots or hanging baskets. Plant at once and keep only slightly moist until started. The flowers are very unusual. Prices are for small tubers or cuttings.

**Ceropegia Woodi.** Hearts on a String. Sweetheart vine. Rosary vine. Heart shaped leaves. The most desirable species. 50c.

**C. debilis.** Cylindrical leaves. Rapid grower. 35c.

**C. Barkleyi.** The oblong leaves are pointed at the apex. 60c.

**Cacti and Succulents.** 10 assorted Cacti or Succulents, \$1.50. 20 all different. \$2.25.